

OCEANO COMMUNITY SERVICES DISTRICT
STORM WATER CAPTURE AND GROUNDWATER RECHARGE PROJECT – 19TH STREET

PLANS AND DRAWINGS

FOR

OCEANO, CA
CONTRACT NO. 2023-01

NOTES:

- EXPANSION JOINTS (EJ) SHALL BE PLACED AT CURB RETURNS, DRIVEWAYS, STORM DRAIN CATCH BASINS, AROUND UTILITY POLES, AT LONGITUDINAL CURB GUTTER AND SIDEWALK INTERVALS NOT TO EXCEED 36 FEET, AND AT ALL OTHER LOCATIONS AS DIRECTED BY THE DEPARTMENT. THE INTERVALS BETWEEN EXPANSION JOINTS SHALL VARY TO ALLOW MATCHING OF JOINTS IN ADJACENT EXISTING IMPROVEMENTS AS APPLICABLE.
- WEAKENED PLANE JOINTS (WPJ) SHALL BE A MINIMUM 1-INCH IN DEPTH AND PLACED AT LONGITUDINAL CURB GUTTER AND SIDEWALK INTERVALS NOT EXCEEDING 6 FEET BETWEEN EXPANSION JOINTS. THE INTERVALS BETWEEN WEAKENED PLANE JOINTS SHALL VARY TO ALLOW MATCHING OF JOINTS IN ADJACENT EXISTING IMPROVEMENTS AS APPLICABLE.
- 1/2" x 18" SMOOTH GREASED DOWELS SHALL BE PLACED AT ALL EXPANSION JOINTS, ONE IN THE NEW CURB FACE, ONE IN THE NEW GUTTER, AND AT 18-INCHES ON CENTER IN NEW SIDEWALK.
- WHEN PLACED IN SIDEWALKS, BOTH EXPANSION JOINTS AND WEAKENED PLANE JOINTS SHALL EXTEND THROUGH THE ADJACENT CURB AND GUTTER.
- REFER TO RESPECTIVE IMPROVEMENT (CURB, GUTTER, SIDEWALK, RAMP, DRIVEWAY, ETC) STANDARD DRAWING FOR ADDITIONAL CONSTRUCTION INFORMATION.

SEE RESPECTIVE DRIVEWAY DRAWINGS FOR LOCATIONS OF EJS AND WPJS

EXPANSION JOINT FELT SHALL BE FLUSH WITH THE TOP OF FINISHED SURFACE.

1/2" x 18" SMOOTH GREASED DOWEL

WEAKENED PLANE JOINT

DEPT. OF PUBLIC WORKS - STANDARD DRAWINGS
**CONCRETE FLATWORK
CONTRACTION & CONTROL JOINTS**

Issued: June 2019
Revised: N/A
Drawing No: C-1

TYPE "A" CONCRETE CURB & GUTTER

NOTES:

- ROADWAY STRUCTURAL SECTION PER PLAN OR AS EXISTING.
- CONCRETE CURB SHALL CONFORM TO STATE STANDARD SPECIFICATIONS, 520 LBS CEMENTITIOUS MATERIAL PER CUBIC YARD (5-1/2 BAGS). EXTRUDED CURB SHALL CONFORM TO STATE STANDARD SPECIFICATIONS. CONCRETE CURING SHALL BE BY PROMOTED CURING COMPOUND METHOD USING WHITE PIGMENT TYPE.
- 3/4" MINIMUM CLASS II AGGREGATE BASE TO 95% RELATIVE COMPACTION OR MATCH BASE THICKNESS REQUIREMENT FOR NEW OR EXISTING ROAD SECTION, WHICHEVER IS GREATEST.
- 12" MINIMUM SUBGRADE TO 95% RELATIVE COMPACTION.
- SUBGRADE AND AGGREGATE BASE COMPACTION REQUIREMENTS SHALL EXTEND TO THE BACK OF CURB OR TO THE BACK OF ATTACHED SIDEWALK (WHICHEVER CONDITION IS APPLICABLE).
- GUTTER CROSS SLOPE SHALL NOT EXCEED 5% ACROSS CURB RAMPS PER DETAIL BELOW.
- THE ROADWAY FINISHED SURFACE SHALL BE 1/4" ABOVE THE GUTTER LIP.
- PAVEMENT WIDTH MEASURED FROM ROAD CENTERLINE TO THIS POINT.
- 1/2" x 18" LONG GREASED SMOOTH DOWELS (■) SHALL BE CONSTRUCTED AT ALL EXPANSION JOINTS AND CONSTRUCTION JOINTS. REFER TO STANDARD DRAWING C-1.
- EXPANSION JOINTS SHALL BE CONSTRUCTED AT 36-FEET MAXIMUM INTERVALS, AT ENDS OF ALL CURB RETURNS, AND EACH SIDE OF DRIVEWAY DEPRESSIONS PER STANDARD DRAWING C-1. THE INTERVALS BETWEEN EXPANSION JOINTS SHALL VARY TO ALLOW MATCHING OF JOINTS ADJACENT EXISTING IMPROVEMENTS WHEN APPLICABLE.
- WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 10-FEET MAXIMUM INTERVALS PER STANDARD DRAWING C-1. THE INTERVALS BETWEEN EXPANSION JOINTS SHALL VARY TO ALLOW MATCHING OF JOINTS ADJACENT EXISTING IMPROVEMENTS WHEN APPLICABLE.
- UNDER NO CIRCUMSTANCES SHALL UTILITY LIDS AND CONCRETE COLLARS BE LOCATED WITHIN THE CURB & GUTTER.

NOTES:

- GUTTER CROSS SLOPE = 1/4" IN 18" = 6.9%
- GUTTER CROSS SLOPE TRANSITION ZONE (VARIES)
- CURB CROSS SLOPE = 7/8" IN 18" = 4.3% (5% MAX) LONGITUDINAL SLOPE = 2% MAX

TYPICAL GUTTER TRANSITION AT CURB RAMP

DEPT. OF PUBLIC WORKS - STANDARD DRAWINGS
**CONCRETE FLATWORK
TYPE "A" CURB & GUTTER**

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Drawing No: C-2

TYPE "C" CONCRETE CURB

NOTES:

- ROADWAY STRUCTURAL SECTION PER PLAN OR AS EXISTING.
- CONCRETE CURB SHALL CONFORM TO STATE STANDARD SPECIFICATIONS, 520 LBS CEMENTITIOUS MATERIAL PER CUBIC YARD (5-1/2 BAGS). EXTRUDED CURB SHALL CONFORM TO STATE STANDARD SPECIFICATIONS. CONCRETE CURING SHALL BE BY PROMOTED CURING COMPOUND METHOD USING WHITE PIGMENT TYPE.
- 3/4" MINIMUM CLASS II AGGREGATE BASE TO 95% RELATIVE COMPACTION OR MATCH BASE THICKNESS REQUIREMENT FOR NEW OR EXISTING ROAD SECTION, WHICHEVER IS GREATEST.
- 12" MINIMUM SUBGRADE TO 95% RELATIVE COMPACTION.
- SUBGRADE AND AGGREGATE BASE COMPACTION REQUIREMENTS SHALL EXTEND TO THE BACK OF CURB OR TO THE BACK OF ATTACHED SIDEWALK (WHICHEVER CONDITION IS APPLICABLE).
- GUTTER CROSS SLOPE SHALL NOT EXCEED 5% ACROSS CURB RAMPS PER DETAIL BELOW.
- THE ROADWAY FINISHED SURFACE SHALL BE 1/4" ABOVE THE GUTTER LIP.
- PAVEMENT WIDTH MEASURED FROM ROAD CENTERLINE TO THIS POINT.
- 1/2" x 18" LONG GREASED SMOOTH DOWELS (■) SHALL BE CONSTRUCTED AT ALL EXPANSION JOINTS PER STANDARD DRAWING C-1.
- EXPANSION JOINTS SHALL BE CONSTRUCTED AT 36-FEET MAXIMUM INTERVALS, AT ENDS OF ALL CURB RETURNS, AND EACH SIDE OF DRIVEWAY DEPRESSIONS. THE INTERVALS BETWEEN EXPANSION JOINTS SHALL VARY TO ALLOW MATCHING OF JOINTS ADJACENT EXISTING IMPROVEMENTS WHEN APPLICABLE PER STANDARD DRAWING C-1.
- WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 10-FEET MAXIMUM INTERVALS PER STANDARD DRAWING C-1. THE INTERVALS BETWEEN EXPANSION JOINTS SHALL VARY TO ALLOW MATCHING OF JOINTS ADJACENT EXISTING IMPROVEMENTS WHEN APPLICABLE.
- UNDER NO CIRCUMSTANCES SHALL UTILITY LIDS AND CONCRETE COLLARS BE LOCATED WITHIN THE TOP OF CURB.

DEPT. OF PUBLIC WORKS - STANDARD DRAWINGS
**CONCRETE FLATWORK
TYPE "C" CURB**

Issued: June 2019
Revised: N/A
Drawing No: C-3

FACE ANGLE ANCHOR

WING TRANSITION PLAN

TYPICAL FRAME

SECTION A-A

PLAN MODIFIED 6" WIDTH

NOTES:

- REINFORCING STEEL SHALL BE #4 BARS AT 18" O.C. PLACED 1-1/2" CLEAR TO INSIDE OF BOX UNLESS OTHERWISE NOTED. BASIN FLOORS SHALL HAVE WOOD FLOAT FINISH AND A MINIMUM SLOPE OF 1/20" FROM ALL DIRECTIONS TOWARDS GUTTER PIPE. CONCRETE SHALL BE 500 LBS/CY CEMENTITIOUS MATERIAL, 8" SACK PER STATE STANDARD SPECIFICATIONS.
- FACE ANGLE SHALL EXTEND FULL WIDTH OF BOX.
- SMOOTH GROUT INSIDE AND OUTSIDE OF PIPE JUNCTION TO FORM A WATER-TIGHT SEAL.
- FRAME SHALL BE OFFERED IN COMMERCIAL QUALITY ASPHALTUM PAINT OR GALVANIZED.
- IN ALL CASES 2" LONG CONCRETE WINGS SHALL BE CONSTRUCTED EITHER SIDE OF THE INLET.
- GRATE SHALL BE BICYCLE PROOF AND CONFORM TO STATE STANDARD SPECIFICATIONS.
- THE DEPARTMENT MAY REQUIRE CURB AND/OR SEDIMENTATION CONTROL DEVICES BE PROVIDED.
- PRECAST INLETS MEETING THESE SAME REQUIREMENTS MAY BE SUBSTITUTED AT THE APPROVAL OF THE DEPARTMENT.
- THE CATCH BASIN TOP AND GRATE SHALL BE CONSTRUCTED TO MATCH THE LONGITUDINAL SLOPE OF THE ADJACENT ROADWAY.
- INSTALL STORM DRAIN MARKER PER M-6.
- PLACE A 3/4" PLAN ROUND PROTECTION BAR 1/2" HEIGHT AND HORIZONTALLY ACROSS THE LENGTH OF THE OPENINGS. BEAD BACK 4" MIN INTO THE INLET WALL ON EACH SIDE.

DEPT. OF PUBLIC WORKS - STANDARD DRAWINGS
**DRAINAGE & FLOOD CONTROL
URBAN CATCH BASIN**

Issued: June 2019
Revised: N/A
Drawing No: D-2

SECTION A-A

SECTION B-B

PLAN

NOTES:

- MANHOLE COVER AND FRAME SHALL HAVE A MINIMUM 24" O OPENING AND CONFORM TO HS-20 TRAFFIC LOADING. LID SHALL HAVE AN OPEN PICKUP HOLE, AND BE LETTERED "STORM DRAIN".
- COLLAR SHALL BE PORTLAND CEMENT CONCRETE, TROWELLED TO STREET GRADE, AND ALLOWED TO CURE 48 HOURS PRIOR TO FULL TRAFFIC USE.
- PROVIDE ADJUSTING RINGS AS NEEDED. GROUT ON THE INSIDE.
- PRECAST SHAFT(S) AND CONCENTRIC CONE SHALL MEET ASTM C-478 817 FOR CLASS 2 REINFORCED CONCRETE PIPE, OR AS APPROVED BY THE DEPARTMENT.
- JOINTS SHALL BE WATER-TIGHT, SET WITH BUTYL RUBBER SEALANT (PUBLIKANE OR EQUAL).
- CONCRETE MANHOLE BASE SHALL CONFORM TO STATE STANDARD SPECIFICATIONS, 500 LBS CEMENTITIOUS MATERIAL, 8" SACK, AND REST UPON UNDISTURBED MATERIAL. BOTTOM SHAFT SHALL BE WEI-SET OR SET IN FORMED GROOVE. PRECAST BASES MAY BE USED WITH PRIOR APPROVAL OF THE DEPARTMENT AND SHALL MEET ASTM C-478 617.
- PIPE SHALL BE LAD THROUGH MANHOLE, AND TOP PORTION REMOVED AFTER BASE IS POURED. TROUGH SHALL HAVE STEEL-TROWEL FINISH, VERTICAL SIDES, ROUNDED CORNERS, TOP SURFACE SHALL HAVE 1-INCH PER 12-INCH SLOPE TOWARD TROUGH.
- EQUALIZERS PRECAST BASES SHALL BE ALLOWED.
- UNDER NO CIRCUMSTANCES SHALL UTILITY LIDS AND CONCRETE COLLARS BE LOCATED WITHIN CURBS, GUTTERS, SIDEWALKS, DRIVEWAY APRONS, CURB RAMPS, OR CROSS GUTTERS.
- LOCKING LIDS MAY BE REQUIRED BY THE DEPARTMENT.

DEPT. OF PUBLIC WORKS - STANDARD DRAWINGS
**DRAINAGE & FLOOD CONTROL
MANHOLE FOR PIPE DIA. 18" TO 36"**

Issued: June 2019
Revised: N/A
Drawing No: D-3

PLAN VIEW

SECTION A-A

CINCH-TIE DETAIL

NOTES:

- AN ENCROACHMENT PERMIT SHALL BE REQUIRED FOR ALL PLANTINGS WITHIN THE PUBLIC RIGHT OF WAY. THE PERMIT SHALL DEFINE RESPONSIBILITY FOR MAINTENANCE AND REMOVAL IF REQUIRED.
- TREES SHALL BE SPACED A MIN OF 25' APART AS DIRECTED BY ENCROACHMENT PERMIT. TREES SHALL BE AT LEAST 50 FEET FROM CURB RETURNS, ALL TRAFFIC SIGNALS AND SIGNALS SHALL REMAIN VISIBLE.
- TREE SIZE TO BE COMPARABLE TO STANDARD 1/2-INCH BOX TREE, NURSERY STOCK.
- TREES ARE TO BE SELECTED FROM A LIST OF THOSE APPROVED BY THE COUNTY PLANNING DEPARTMENT.
- BACKFILL HOLE WITH 5050 MIX OF COMMERCIAL PLANTING MIX AND NATIVE SOIL. LOOSEN ROOT BALL, TAMP SOIL TO ELIMINATE AIR SPACES, AND WATER SLOWLY TO PENETRATE ROOT BALL.
- INSTALL DUCTILE CAST IRON TREE WELL GRATES, 36" SQUARE WITH MINIMUM 15" O CENTER OPENING.
- INSTALL PERIMETER ROOT BARRIER WITH A MINIMUM DEPTH OF 24" FROM FINISH GRADE.
- MAINTENANCE IS THE RESPONSIBILITY OF THE FRONTING PROPERTY OWNER. RESPONSIBILITY MUST BE TRANSFERRED TO SUBSEQUENT OWNERS BY TITLE. THE TREE SHALL BE REMOVED BY PROPERTY OWNER IF DIRECTED BY THE DEPARTMENT.
- ONLY FOR USE IN 10-FOOT WIDE SIDEWALK OR WHERE MATURE TREE WILL NOT INTERFERE WITH PEDESTRIAN ACCESSIBILITY.

DEPT. OF PUBLIC WORKS - STANDARD DRAWINGS
**TREE
PLANTING IN RIGHT-OF-WAY**

Issued: June 2019
Revised: N/A
Drawing No: M-5

ROADWAY WIDTH

TYPICAL URBAN STREET WIDENING SECTION

WIDENING PROCEDURE

- SAWCUT PER NOTE 1 AND REMOVE MATERIAL TO REQUIRED DEPTH.
- CONSTRUCT NEW SUBGRADE AND BASE PER DEPARTMENT APPROVED SECTION.
- SAWCUT PER NOTE 1 TO REMOVE AN ADDITIONAL 1/2" MIN OF HMA SURFACE.
- RECOMPACT EXISTING BASE SECTION TO 95% RELATIVE COMPACTION.
- GRIND 1.5" (MIN) EXISTING ASPHALT SURFACE SO FINAL SEAMS ARE LOCATED PER TABLE 1.
- PAVE ROADWAY PER DEPARTMENT APPROVED SECTION.

PCI	Roadways with 500 ADT or less and within the URL	All Other Roadways
85-100	Full Lane Width Overlay	Full Lane Width Overlay
65-84	12" min, T-Section	Half Lane Width Overlay
<65	12" min, T-Section	12" min, T-Section

DEPT. OF PUBLIC WORKS - STANDARD DRAWINGS
**PAVEMENT RESTORATION
URBAN STREET WIDENING**

Issued: June 2019
Revised: N/A
Drawing No: R-2a

CONSTRUCTION (COLD) JOINT AT SAWCUT

NOTES:

- SAWCUT TO REMOVE DAMAGED OR FAILED PAVEMENT SECTION ADJACENT TO THE EDGE OF PAVEMENT AS NECESSARY TO PROVIDE A CLEAN JOIN LINE. ALL SAWCUTS SHALL BE PERPENDICULAR OR TRANSVERSE TO THE TRAVEL LANE. CUT EDGES SHALL BE VERTICAL WITH SQUARE CORNERS AND SHALL BE STRAIGHT AND NEAT IN APPEARANCE.
- THE STRUCTURAL ROAD WEARING SECTION SHALL BE DETERMINED AT THE TIME OF CONSTRUCTION BASED ON THE SUBGRADE AVAILABLE AND THE TRAFFIC INDEX (TI) AS PROVIDED BY THE DEPARTMENT. IF THE EXISTING ROAD STRUCTURAL SECTION IS GREATER THAN THE DETERMINED ROAD STRUCTURAL SECTION, THEN THE EXISTING STRUCTURAL SECTION THICKNESS SHALL BE MATCHED. TYPICAL ROAD WEIDENING SECTION SHALL BE: 1. NOT BE ASPHALT, DRAIN PER THE DESIGN STANDARDS TO 95% RELATIVE COMPACTION, OVER 2. 12" MINIMUM SUBGRADE TO 95% RELATIVE COMPACTION.
- GRIND 1.5-INCHES MINIMUM FROM THE EXISTING ADJACENT HMA PAVEMENT SO THAT FINAL HMA SEAMS ARE LOCATED IN ACCORDANCE WITH TABLE 1 & DRAWING R-2, OR AS DIRECTED BY THE DEPARTMENT.
- NEW PAVEMENT SHALL BE PLACED IN LIFTS NOT EXCEEDING 3-INCHES (COMPACTED), WITH A MINIMUM LIFT NOT LESS THAN 1.5-INCHES.
- A TACK COAT SHALL BE APPLIED TO ALL HORIZONTAL AND VERTICAL CONFORMING SURFACES PRIOR TO PAVING.
- AFTER PAVING, APPLY 50% OIL (OR APPROVED EQUAL) TO ALL HMA SURFACE SEAMS PER MANUFACTURERS RECOMMENDATIONS.
- CUT AND FILL SLOPES BEYOND ROADWAY PAVEMENT POINTS SHALL NOT EXCEED 2:1 HORIZONTAL TO 1 VERTICAL, OR 3:1 TO 1 NATIVE SAND WITHOUT PRIOR APPROVAL BY THE DEPARTMENT.

DEPT. OF PUBLIC WORKS - STANDARD DRAWINGS
**PAVEMENT RESTORATION
CONCRETE FLATWORK REPAIR**

Issued: June 2019
Revised: N/A
Drawing No: R-4

REV. NO.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APRD BY

1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

**OCEANO ELEMENTARY SCHOOL
INFILTRATION & FRONTAGE IMPROVEMENTS**

DETAIL SHEET

OCEANO, CA

DRAWN BY	DATE	CA JOB NO.
AR	05/31/2023	210534
CHECKED BY	SCALE	SHEET
	N.T.S.	4 OF 29

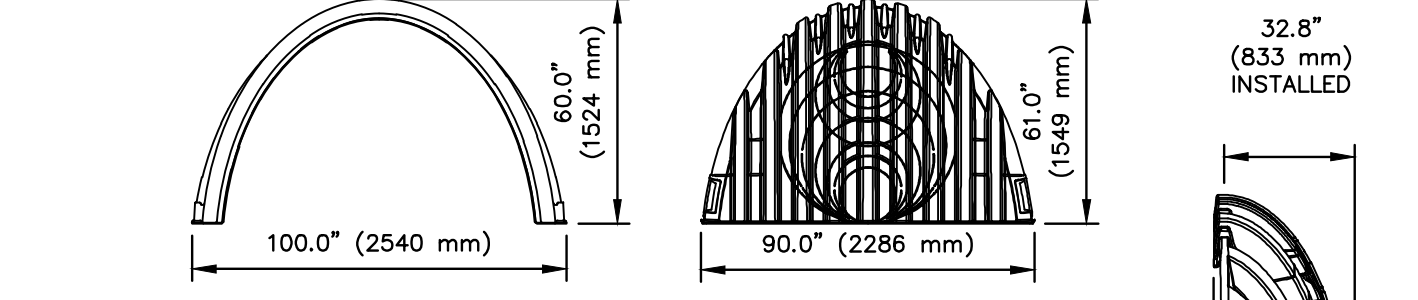
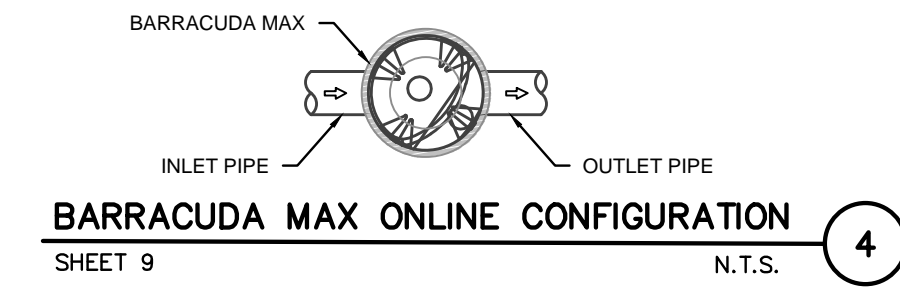
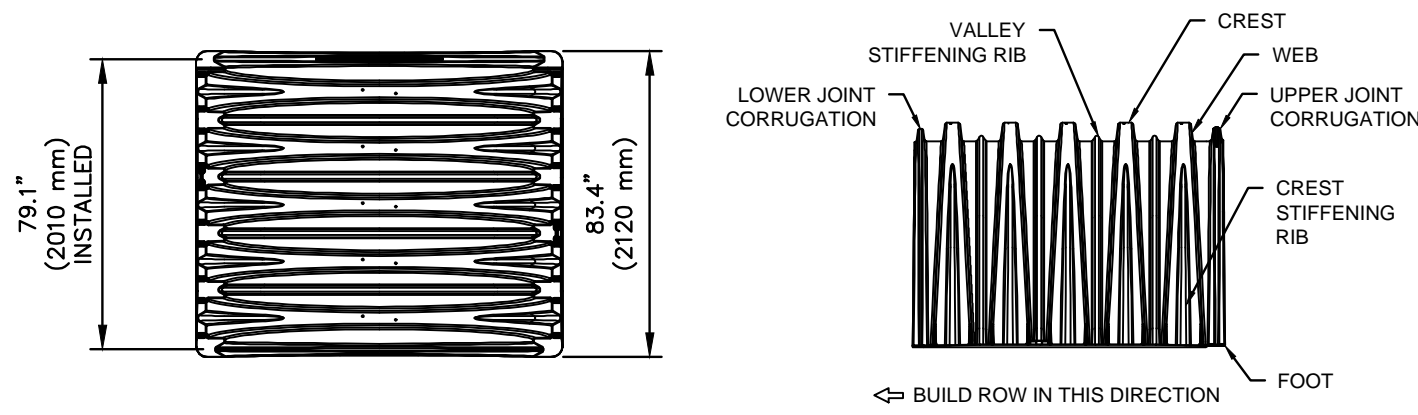
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ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (A LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145' A-1, A-2, A-3 OR AASHTO M43' 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL, AND 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43' 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43' 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNERS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
 - ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

MC-7200 TECHNICAL SPECIFICATION



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1" (2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET (4.98 m ³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET (7.56 m ³)
WEIGHT (NOMINAL)	205 lbs. (92.9 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8" (2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET (1.12 m ³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET (3.26 m ³)
WEIGHT (NOMINAL)	90 lbs. (40.8 kg)

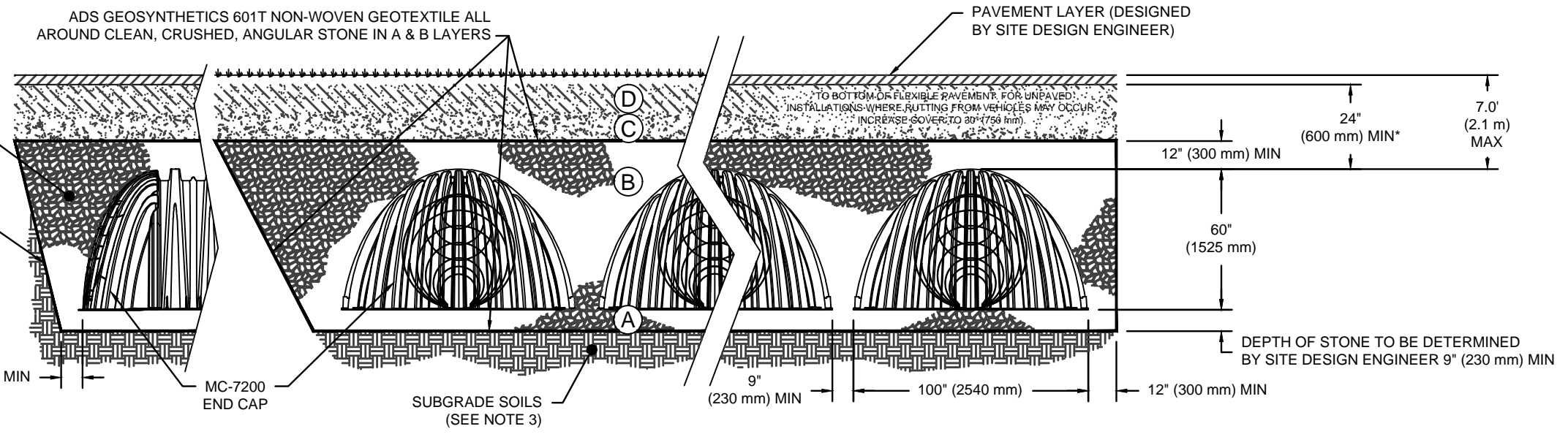
*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH 'B'
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH 'T'
END CAPS WITH A PREFABRICATED WELDED STUB END WITH 'W'

PART #	STUB	B	C
MC7200EPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200EPP06B	---	---	0.86" (22 mm)
MC7200EPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC7200EPP08B	---	---	1.01" (26 mm)
MC7200EPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200EPP10B	---	---	1.33" (34 mm)
MC7200EPP12T	12" (300 mm)	35.60" (907 mm)	---
MC7200EPP12B	---	---	1.55" (39 mm)
MC7200EPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200EPP15B	---	---	1.70" (43 mm)
MC7200EPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200EPP18B	---	---	1.97" (50 mm)
MC7200EPP18W	---	---	---
MC7200EPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200EPP24W	---	---	---
MC7200EPP24B	---	---	2.26" (57 mm)
MC7200EPP24W	---	---	---
MC7200EPP30B	30" (750 mm)	---	2.95" (75 mm)
MC7200EPP36B	36" (900 mm)	---	3.25" (83 mm)
MC7200EPP42B	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVERTED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
- MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT². THE ASC IS DEFINED IN SECTION 6.2.4 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

RETENTION SYSTEM TYPICAL STORMTECH MC-7200 SECTION 1 N.T.S.

MC-7200 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-7200.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT². THE ASC IS DEFINED IN SECTION 6.2.4 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD. THE MINIMUM REQUIRED IS ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-7200 CHAMBER SYSTEM

- STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONE SHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
- INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #4 OR #4.
- STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
- STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

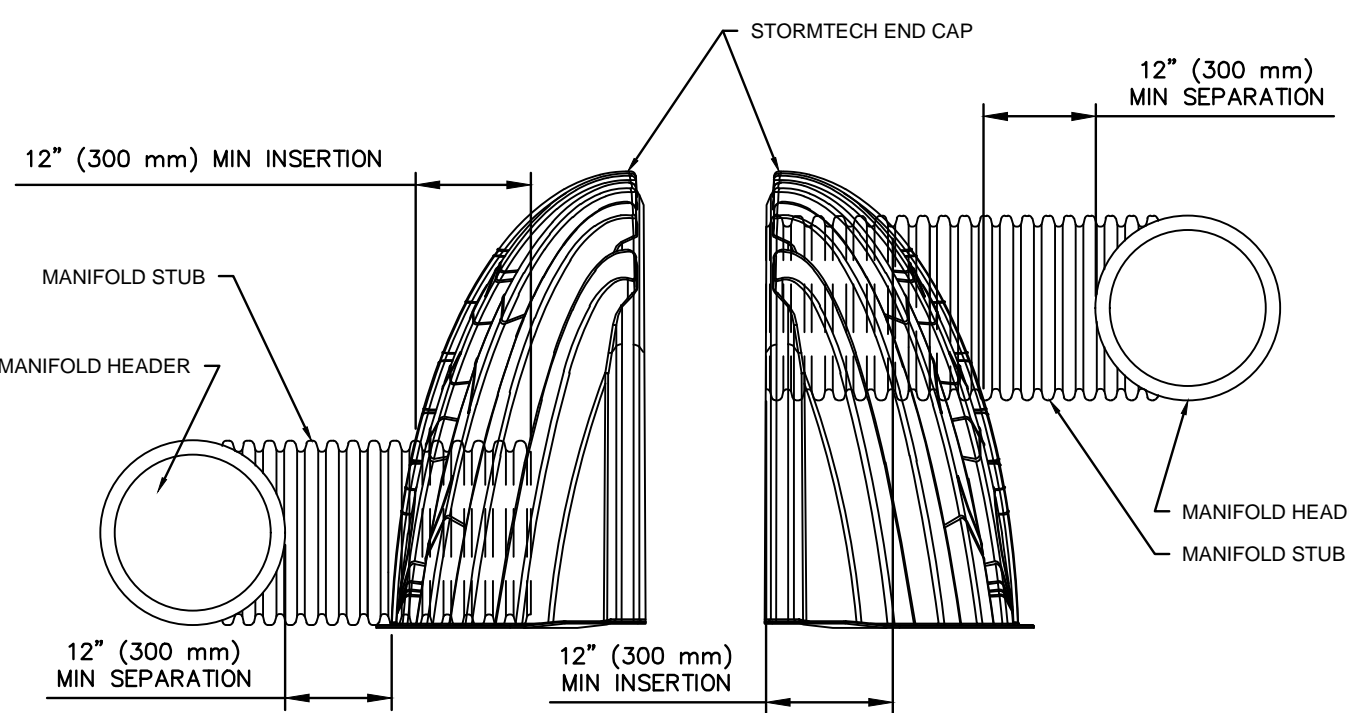
- STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
- THE USE OF EQUIPMENT OVER MC-7200 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-7200 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

MC-7200 TECHNICAL SPECIFICATIONS SECTION

MC-SERIES END CAP INSERTION DETAIL 3 N.T.S.



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.



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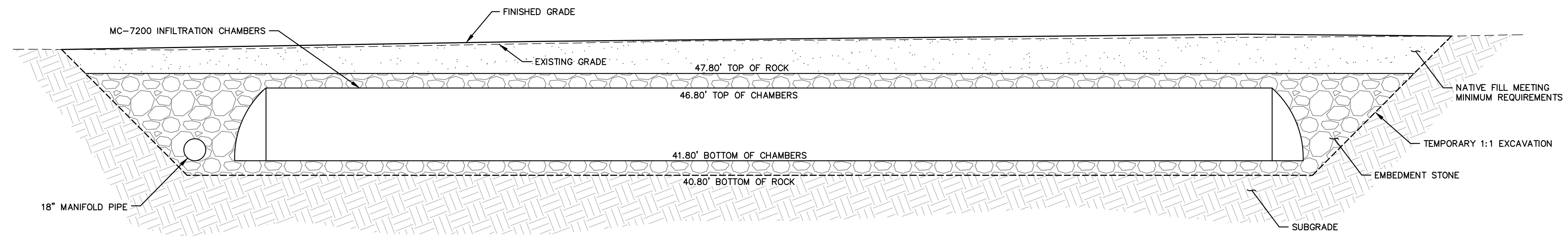
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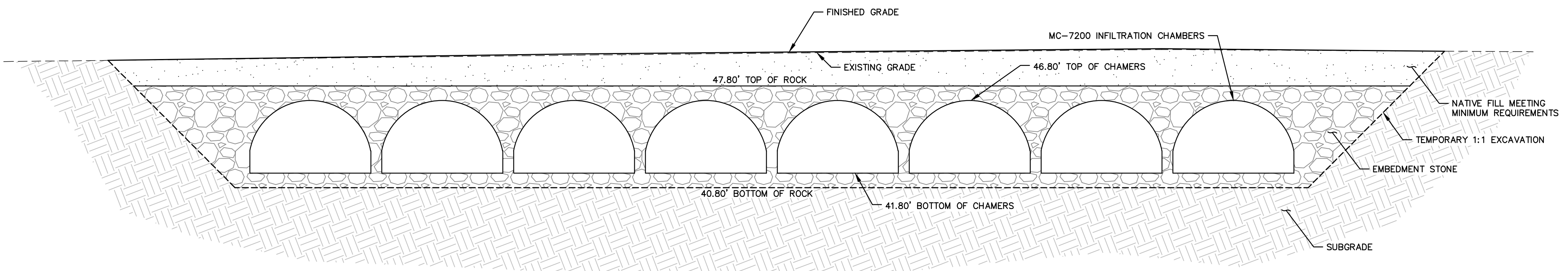
OCEANO ELEMENTARY SCHOOL INFILTRATION & FRONTAGE IMPROVEMENTS		
DETAIL SHEET		
OCEANO, CA		
DRAWN BY AR	DATE 05/31/2023	CA JOB NO. 210534
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INFILTRATION CHAMBER SECTION
SHEET 9 **A**



INFILTRATION CHAMBER SECTION
SHEET 9 **B**



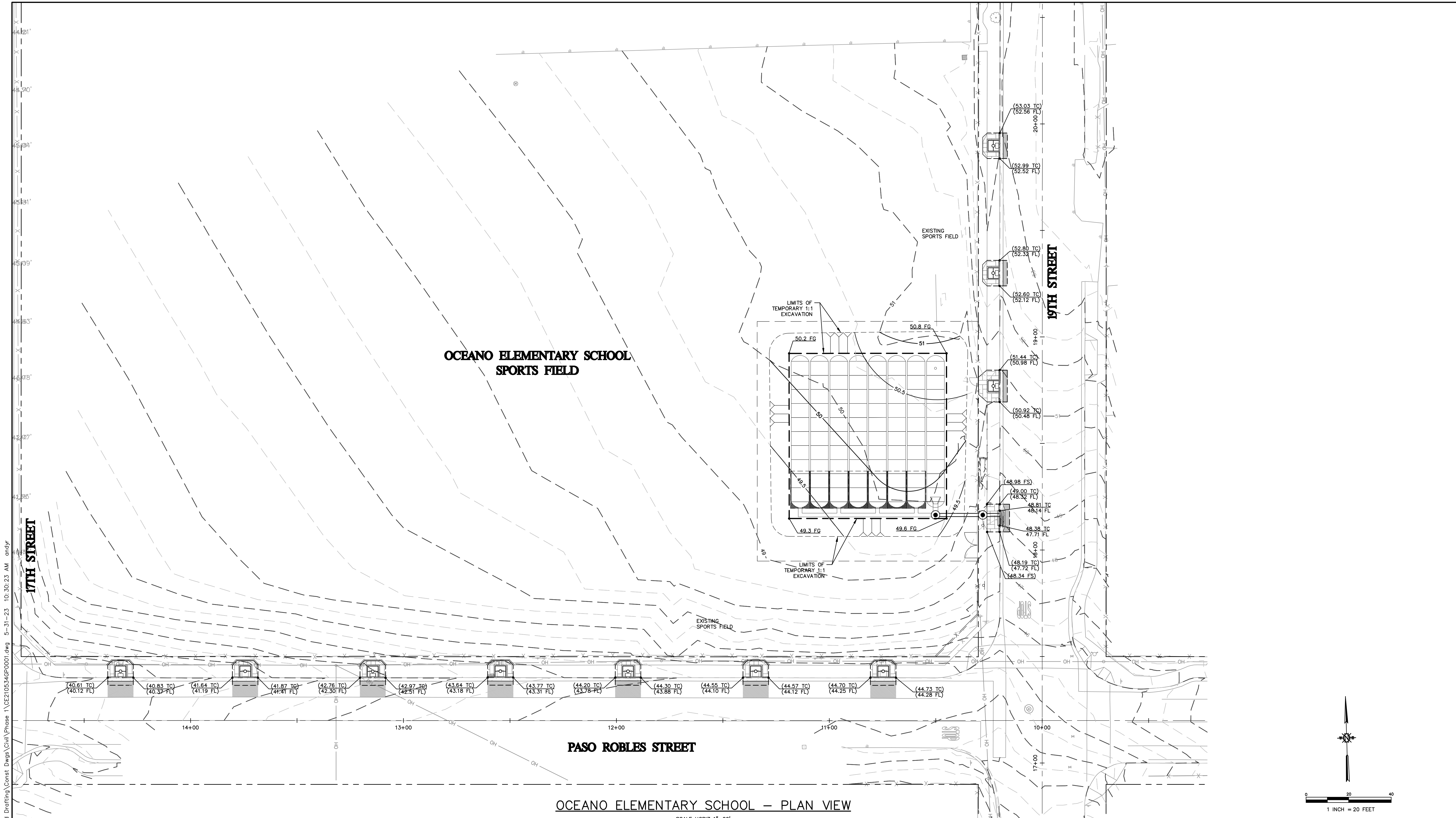
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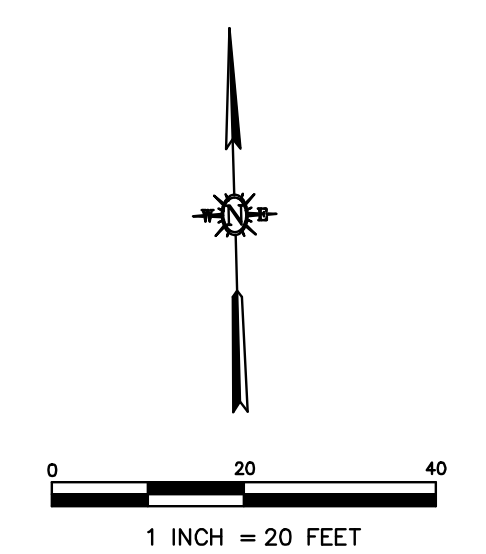
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SCALE HORIZ 1"=20'



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OCEANO ELEMENTARY SCHOOL INFILTRATION & FRONTAGE IMPROVEMENTS		
GRADING PLAN		
OCEANO, CA		
DRAWN BY AR	DATE 05/31/2023	CA JOB NO. 210534
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SLO COUNTY EROSION CONTROL NOTES

A. SEDIMENT AND EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP) SHALL BE IMPLEMENTED ON ALL PROJECTS AT ALL TIMES AND SHALL INCLUDE: POLLUTANT SOURCE CONTROL, PROTECTION OF STOCKPILES, PROTECTION OF SLOPES, PROTECTION OF ALL DISTURBED AREAS, PROTECTION OF SITE ACCESS POINTS, AND PERIMETER CONTAINMENT MEASURES.

B. APPROPRIATE BMP SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF GRADING AND SITE DISTURBANCE ACTIVITIES. THE INTENT OF THE BMP SHALL BE TO PREVENT DISTURBED SEDIMENT FROM ENTERING DRAINAGE CONVEYANCES, GENERATING FUGITIVE DUST, OR MIGRATING ONTO ADJACENT PROPERTIES OR THE PUBLIC RIGHT-OF-WAY.

C. SITE INSPECTIONS AND APPROPRIATE MAINTENANCE OF ALL BMP AND EROSION CONTROL MEASURES SHALL BE CONDUCTED AND DOCUMENTED THROUGHOUT CONSTRUCTION AND ESPECIALLY PRIOR TO, DURING, AND AFTER RAIN EVENTS.

D. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL BMP AS SPECIFIED BY THE APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL SUCH TIME THAT THE PROJECT IS ACCEPTED AS COMPLETE BY THE COUNTY OR UNTIL THE CALIFORNIA CONSTRUCTION GENERAL PERMIT FOR STORMWATER DISCHARGE NOTICE OF TERMINATION IS APPROVED BY THE STATE WATER RESOURCES CONTROL BOARD.

E. EROSION CONTROL BMP MAY BE RELOCATED, MODIFIED, OR ADDED DEPENDING ON FIELD CONDITIONS ENCOUNTERED DURING CONSTRUCTION. ADDITIONAL BMP SHALL BE INSTALLED AT THE DISCRETION OF THE SITE SUPERINTENDENT, ENGINEER OF WORK, COUNTY INSPECTOR, QUALIFIED SWPPP PRACTITIONER (QSP), OR STATE WATER RESOURCES CONTROL BOARD. GUIDELINES FOR INSTALLING APPROPRIATE EROSION CONTROL DEVICES SHALL BE INCLUDED IN THE PLANS WITH ADDITIONAL MEASURES/DEVICES NOTED.

F. SEDIMENT AND EROSION CONTROL BMP SHALL BE AVAILABLE, INSTALLED, AND/OR APPLIED PRIOR TO COMMENCEMENT OF CONSTRUCTION, INSTALLED APPROPRIATELY AS CONSTRUCTION PROGRESSES, AND MAINTAINED IN OPERABLE CONDITION UNTIL FINAL STABILIZATION OF THE SITE IS ACHIEVED. SEDIMENT AND EROSION CONTROL BMP ARE REQUIRED YEAR-ROUND.

G. WET WEATHER PREPARATION: THE CONTRACTOR, DEVELOPER, AND ENGINEER OF WORK SHALL BE RESPONSIBLE TO REVIEW THE CONDITION OF THE PROJECT SITE PRIOR TO OCTOBER 15 (RAINY SEASON) AND TO COORDINATE AN ENHANCED BMP IMPLEMENTATION PLAN FOR WET WEATHER CONDITIONS. A LOCALLY BASED STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCK PILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID MAINTENANCE OR REPAIR OF THE BMP THROUGHOUT THE RAINY SEASON.

H. IN THE EVENT OF A FAILURE, THE DEVELOPER AND/OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR CLEANUP AND ALL ASSOCIATED COSTS OR DAMAGE. IN THE EVENT THAT DAMAGE OCCURS WITHIN THE RIGHT OF-WAY AND THE COUNTY IS REQUIRED TO PERFORM CLEANUP, THE OWNER SHALL BE RESPONSIBLE FOR COUNTY REIMBURSEMENT OF ALL ASSOCIATED COSTS OR DAMAGE.

I. IN THE EVENT OF REPEATED FAILURE AND/OR LACK OF PERFORMANCE BY THE DEVELOPER AND/OR CONTRACTOR TO CORRECT SEDIMENT AND EROSION CONTROL RELATED PROBLEMS, THE DEPARTMENT MAY REVOKE ALL ACTIVE PERMITS. THE COUNTY MAY ISSUE A WRITTEN NOTICE OR STOP WORK ORDER IN ACCORDANCE WITH SECTION 22.52.120 OR 23.05.036 OF THE LAND USE ORDINANCE. DAILY PENALTIES MAY BE ASSESSED BY COUNTY CODE ENFORCEMENT FOR FAILURE TO COMPLY.

J. FINAL STABILIZATION OF THE SITE SHALL BE ESTABLISHED ON ALL DISTURBED SURFACES PRIOR TO FINAL ACCEPTANCE. WHERE VEGETATION IS USED FOR FINAL STABILIZATION, VEGETATION MUST BE MIXED AND APPLIED IN ACCORDANCE WITH THE BELOW TABLE AND SPECIFICATIONS. TEMPORARY EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ACHIEVED.

HYDROSEED MIX FOR STABILIZATION:
 CALIFORNIA BROME (BROMUS CARINATUS 'CUCAMONCA') 12 LBS/AC
 SMALL FESCUE (FESTUCA MICROSTACHYS) 5 LBS/AC
 TOMCAT CLOVER (TRIFOLIUM WILDENOVII) 2 LBS/AC
 CALIFORNIA POPPY (ESCHSCHOLZIA CALIFORNICA) 1.5 LBS/AC
 SKY LUPINE (LUPINUS NANUS) 2 LBS/AC
 GOLDFIELDS (LASTHENIA CALIFORNICA) 0.5 LB/AC

INSTALL SEED MIX AT RATE OF 23 POUNDS PER ACRE ON ALL DISTURBED, UNCOMPACTED SOILS. INCORPORATE COMPOST, FIBER, AND TACKIFIER PER APPLICATOR SPECIFICATIONS BASED ON SITE SLOPE AND SOIL TYPE.

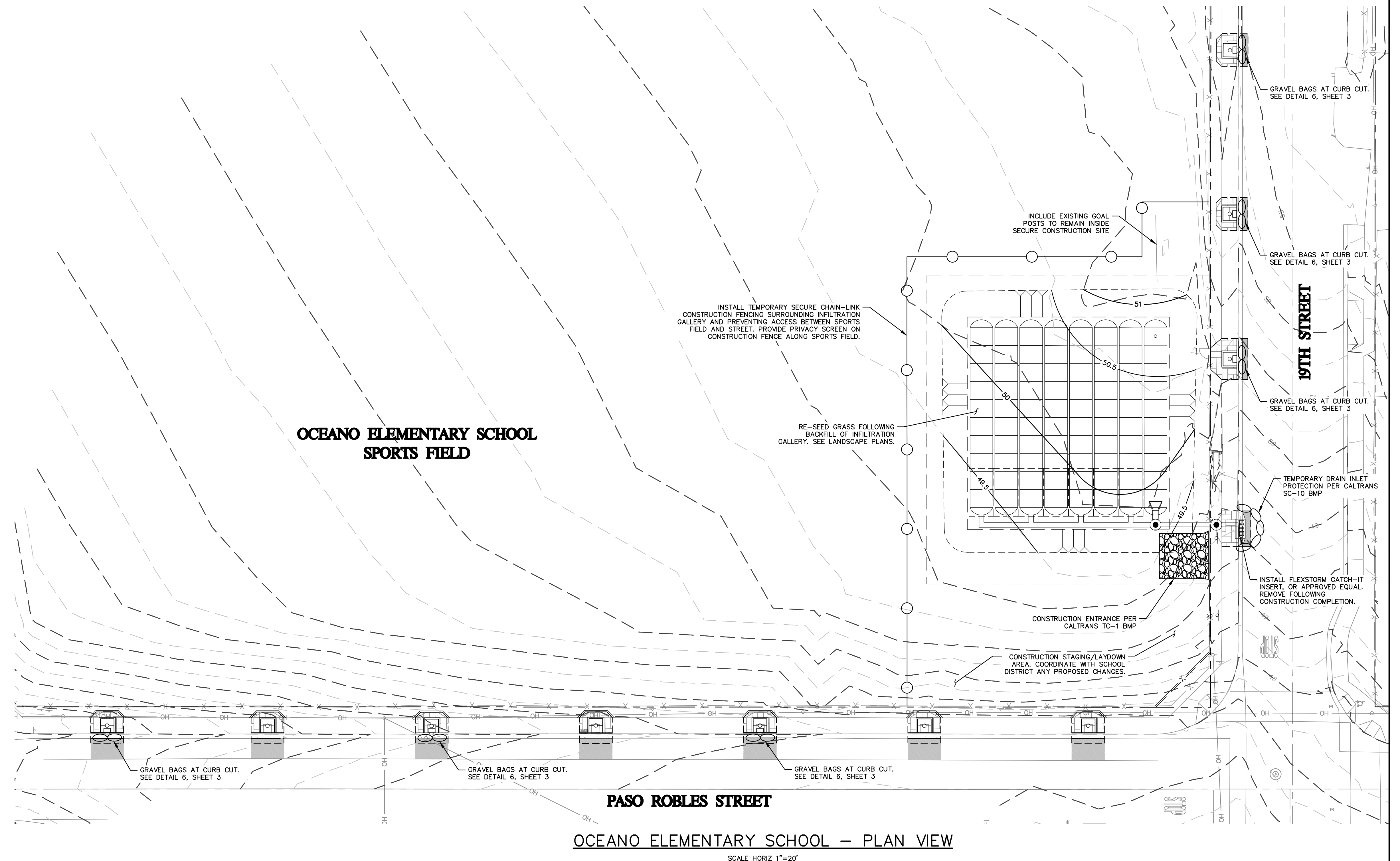
K. THE COUNTY AIR POLLUTION CONTROL DISTRICT (APCD) MAY HAVE ADDITIONAL PROJECT SPECIFIC EROSION CONTROL REQUIREMENTS. THE CONTRACTOR, DEVELOPER, AND ENGINEER OF WORK SHALL BE RESPONSIBLE FOR MAINTAINING SELF-REGULATION OF THESE REQUIREMENTS.

L. IF CONSTRUCTION GENERAL PERMIT FOR STORMWATER DISCHARGE ENROLLMENT IS NECESSARY, THE DEVELOPER (OR LEGALLY RESPONSIBLE AGENT) SHALL SUBMIT THE REQUIRED PERMIT REGISTRATION DOCUMENTS TO THE STATE WATER RESOURCES CONTROL BOARD AND PROVIDE PROOF OF ENROLLMENT TO THE COUNTY PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. THE PROJECT WASTE DISCHARGE IDENTIFICATION NUMBER (WDID#) IS:

CONSTRUCTION NOTES

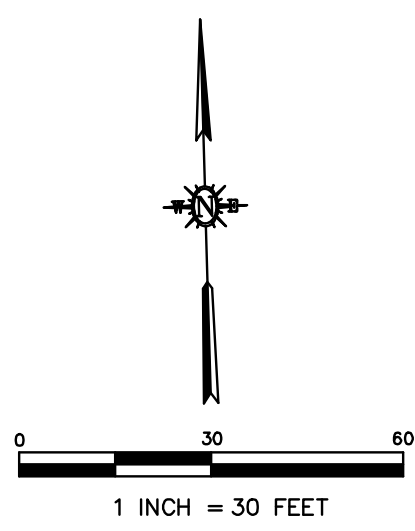
1. INSTALL GRAVEL BAGS AT CURB CUTS TO BLOCK FLOW FROM ENTERING BIORETENTION AREAS. COUNTY TO REMOVE GRAVEL BAGS AT A TIME FOLLOWING CONSTRUCTION COMPLETION.
2. BMPs ARE SHOWN IN APPROXIMATE LOCATIONS AND CONTRACTOR TO ADJUST LOCATIONS AS NEEDED.

TOTAL PROJECT DISTURBED AREA
0.3 ACRES



OCEANO ELEMENTARY SCHOOL – PLAN VIEW
SCALE HORIZ 1"=20'

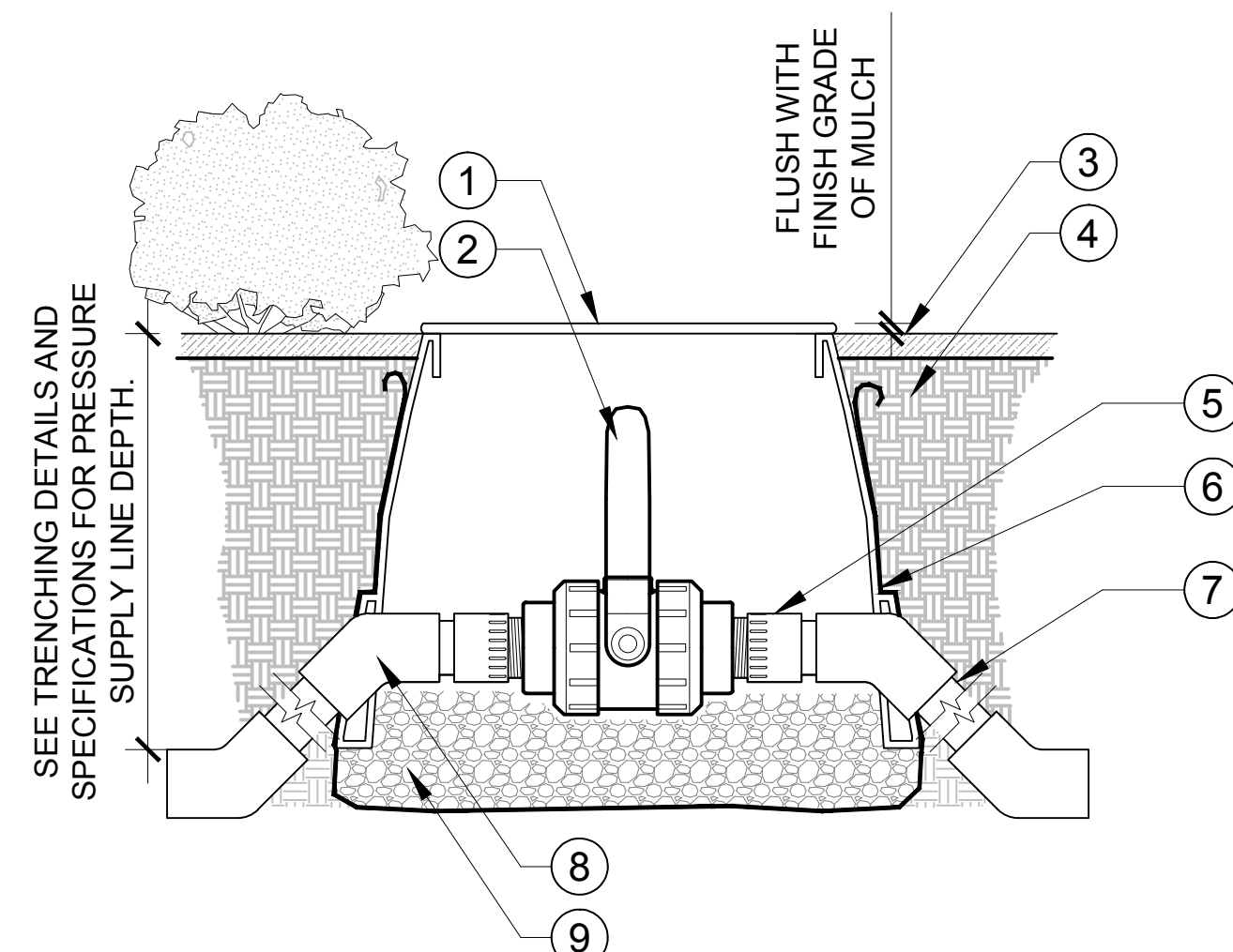
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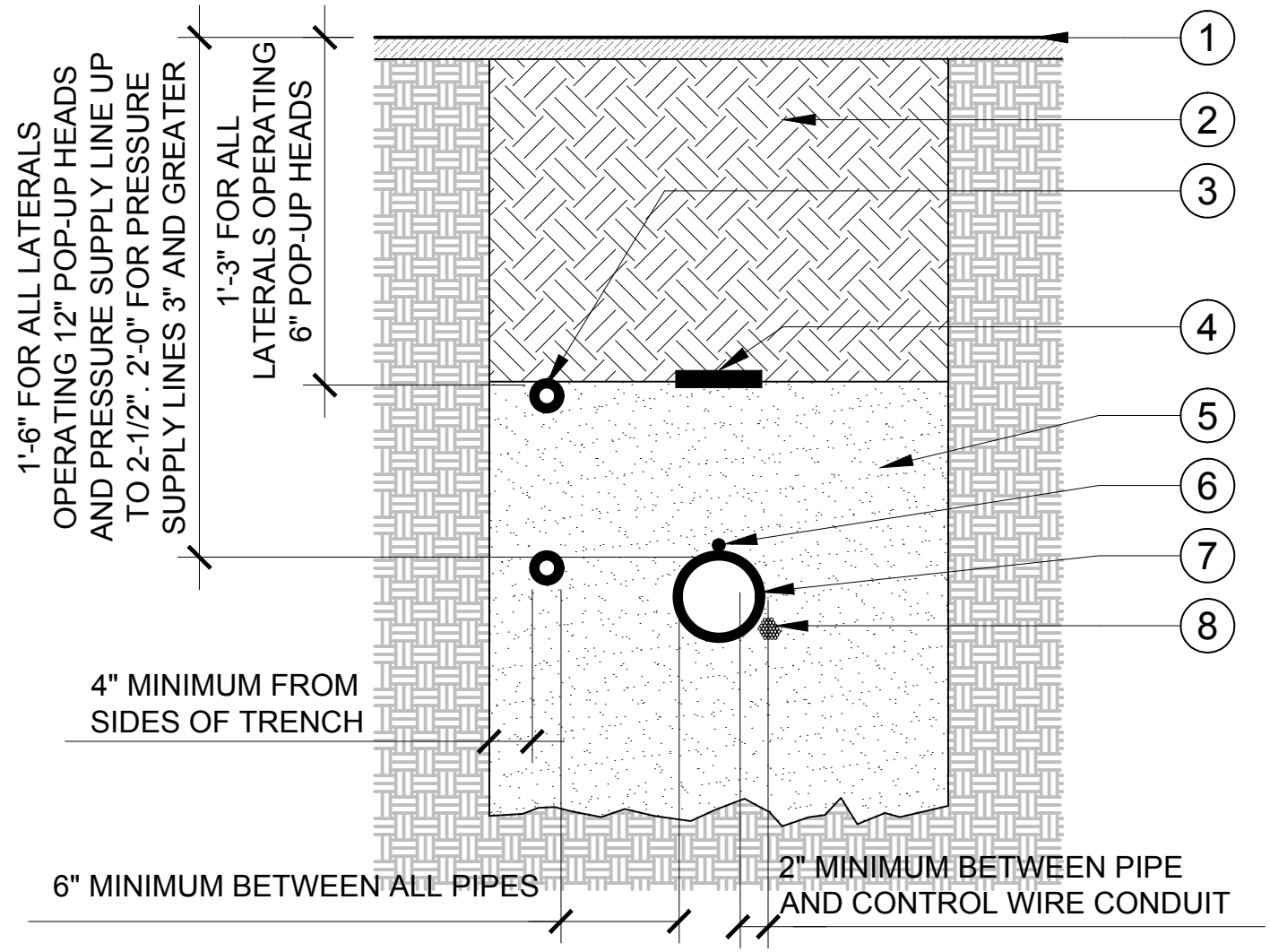
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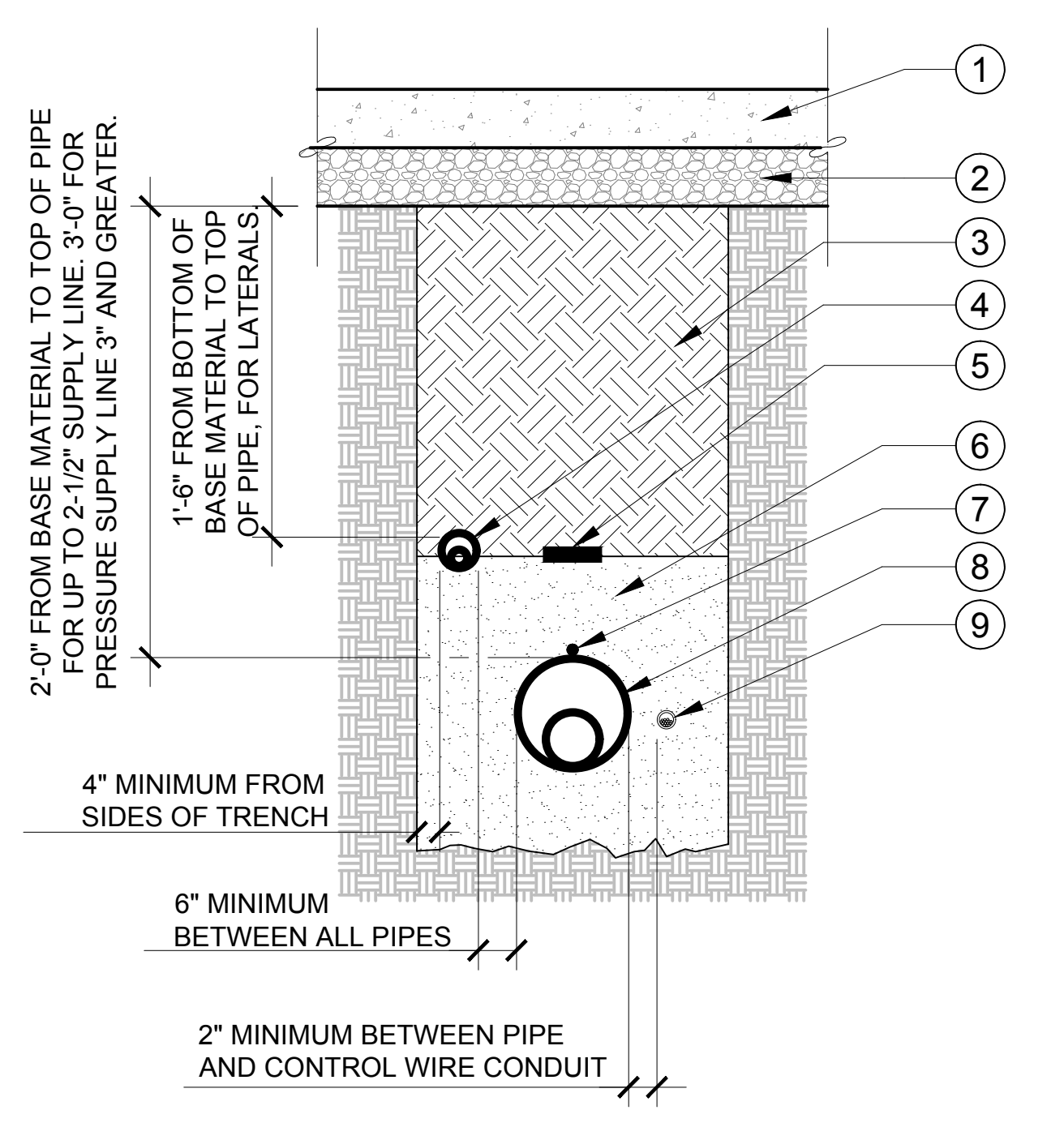
- LEGEND**
- ① 10" DIA. ROUND VALVE BOX WITH LID. SEE SPECIFICATIONS (DO NOT CUT ADDITIONAL HOLES IN BOX)
 - ② ISOLATION BALL VALVE. REFER TO LEGEND
 - ③ FINISH GRADE OF MULCH
 - ④ BACKFILL MATERIAL
 - ⑤ PVC SCH 80 MALE ADAPTER, MIPT X SLIP, LINE/VALVE SIZE
 - ⑥ FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX, COVERING HOLES
 - ⑦ PURPLE PRESSURE SUPPLY LINE LENGTH AS REQUIRED. REFER TO LEGEND FOR CLASS
 - ⑧ PVC SCH 80, 45 DEGREE ELL'S. (4) REQUIRED
 - ⑨ GRAVEL BASE AND SUMP. (COMPACT GRAVEL FOR BOX BASE, DO NOT USE BLOCKS OR BRICKS, FILL GRAVEL TO BOTTOM OF VALVE)
- NOTE:**
1. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.

A ISOLATION BALL VALVE SECTION SCALE: N.T.S.



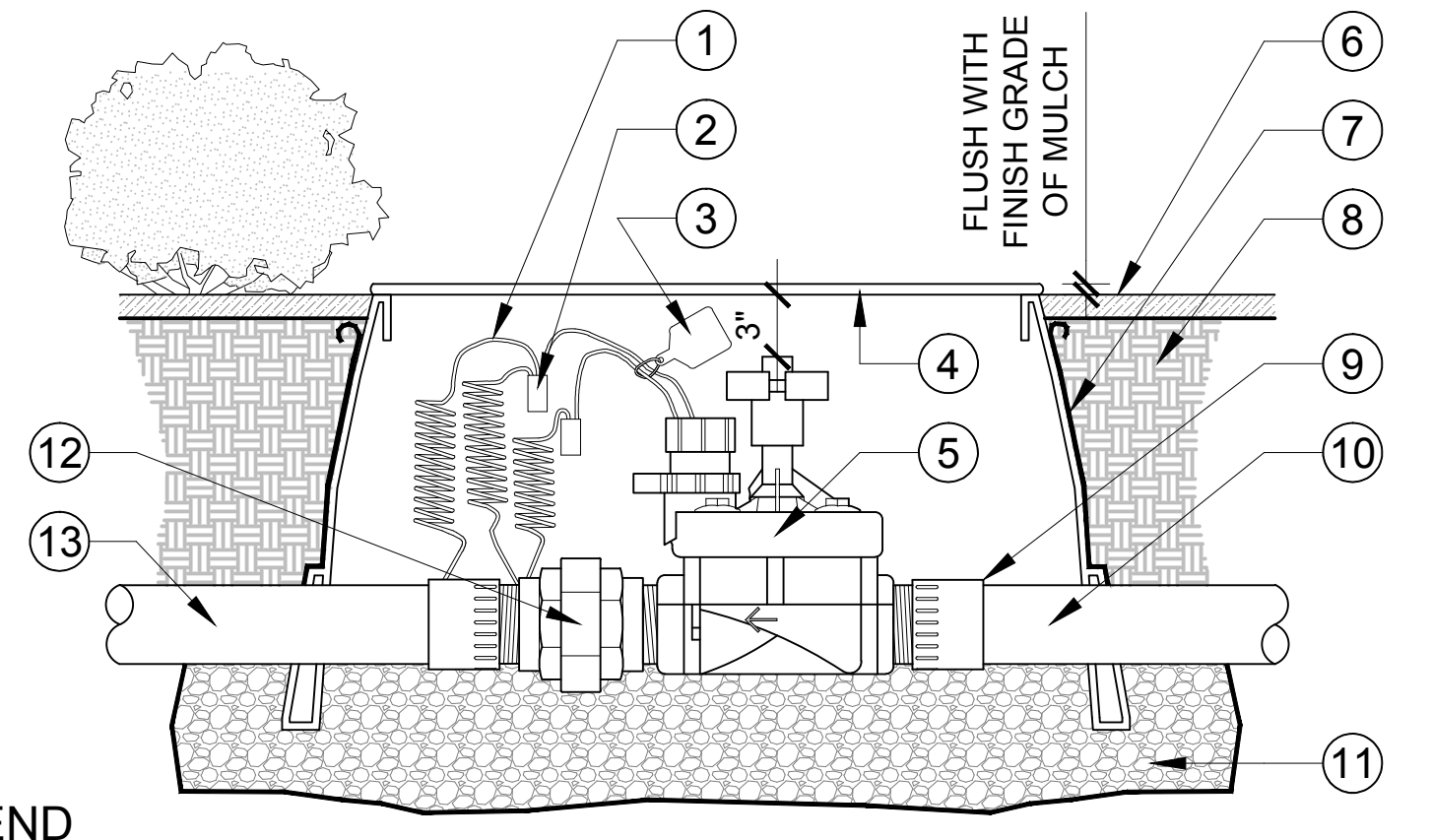
- LEGEND**
- ① FINISH GRADE
 - ② BACKFILL MATERIAL. FREE FROM ALL ROCK AND DEBRIS GREATER THAN ONE INCH
 - ③ PURPLE NON-PRESSURE LATERAL LINE FOR RISERS OUTLET PVC PIPE, AND POP-UPS 6" OR LESS. SEE LEGEND FOR CLASS, REFER TO PLAN FOR SIZE
 - ④ 3" DETECTABLE MARKING TAPE (PURPLE).
 - ⑤ SAND BACKFILL MATERIAL. FREE FROM ALL ROCK AND DEBRIS GREATER THAN ONE HALF INCH. 6" ABOVE AND 6" BELOW PRESSURE SUPPLY LINE
 - ⑥ #12 TRACER WIRE, TAPED TO TOP OF MAINLINE EVERY 10 FEET
 - ⑦ PURPLE PRESSURE SUPPLY LINE. SEE LEGEND FOR CLASS, REFER TO PLAN FOR SIZE
 - ⑧ CONTROL WIRES IN CONDUIT, 2" AWAY FROM AND BESIDE PRESSURE SUPPLY LINE.

B TRENCH IN LANDSCAPE SECTION SCALE: N.T.S.



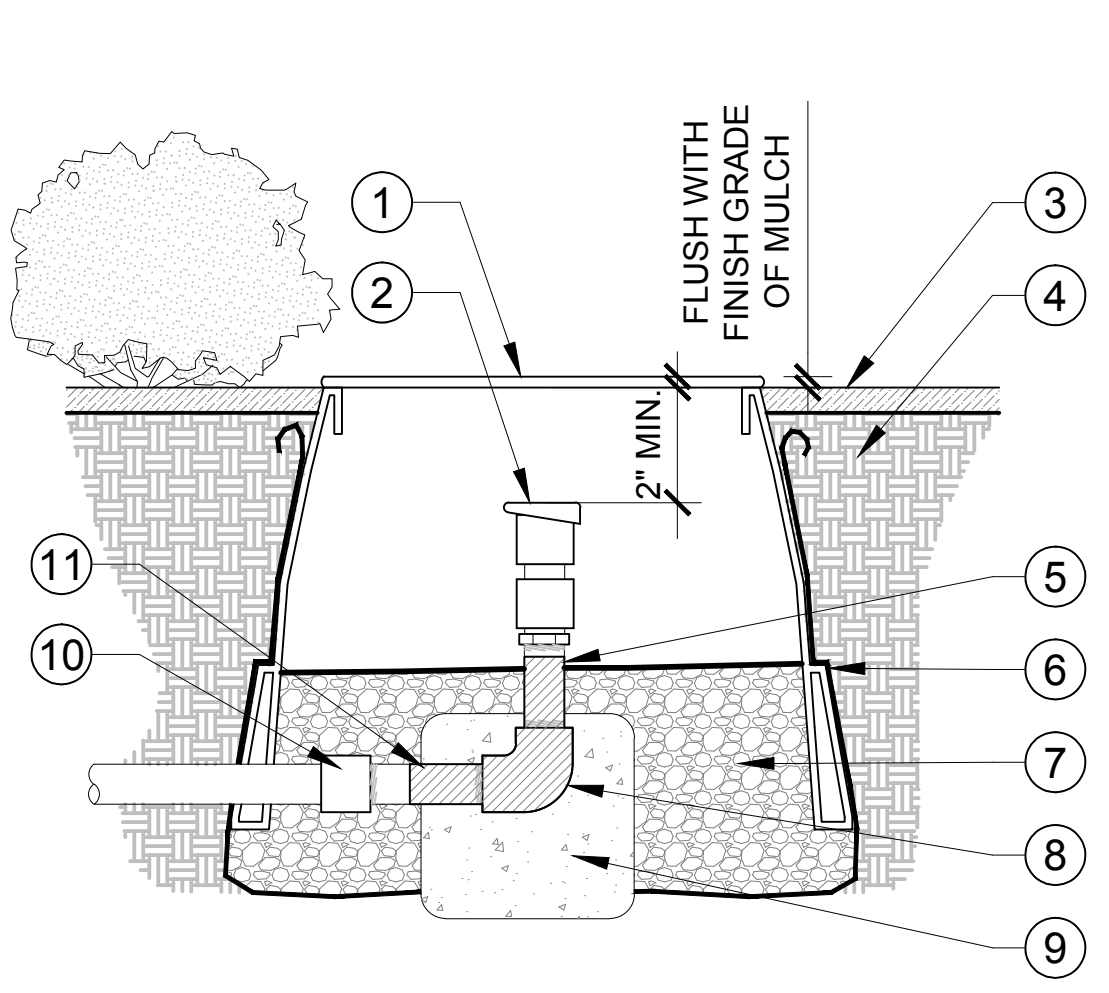
- LEGEND**
- ① HARDSCAPE MATERIAL
 - ② BASE MATERIAL
 - ③ BACKFILL MATERIAL. FREE FROM ALL ROCK AND DEBRIS GREATER THAN ONE INCH SIZE.
 - ④ NON-PRESSURE LATERAL LINE (PURPLE) IN PVC SCH 40 SLEEVE (PURPLE) MINIMUM TWICE THE DIAMETER OF THE LINE RUNNING THROUGH. ALL LATERAL LINES SHALL BE AT THE SAME DEPTH UNDER HARDSCAPE
 - ⑤ 3" DETECTABLE MARKING TAPE (PURPLE).
 - ⑥ BACKFILL SAND FREE FROM ALL ROCK AND DEBRIS GREATER THAN ONE-HALF INCH SIZE. 6" ABOVE AND 6" BELOW PRESSURE SUPPLY LINE
 - ⑦ #12 TRACER WIRE, TAPED TO TOP OF MAINLINE EVERY 10 FEET
 - ⑧ PRESSURE SUPPLY LINE (PURPLE) IN PVC SCH 40 SLEEVE (PURPLE) TWICE THE DIAMETER OF THE LINE RUNNING THROUGH
 - ⑨ SCH 40 PVC ELECTRICAL CONDUIT FOR ALL IRRIGATION WIRES. SEE LEGEND FOR CLASS, REFER TO SPECIFICATIONS FOR SIZES

C TRENCH IN HARDSCAPE SECTION SCALE: N.T.S.



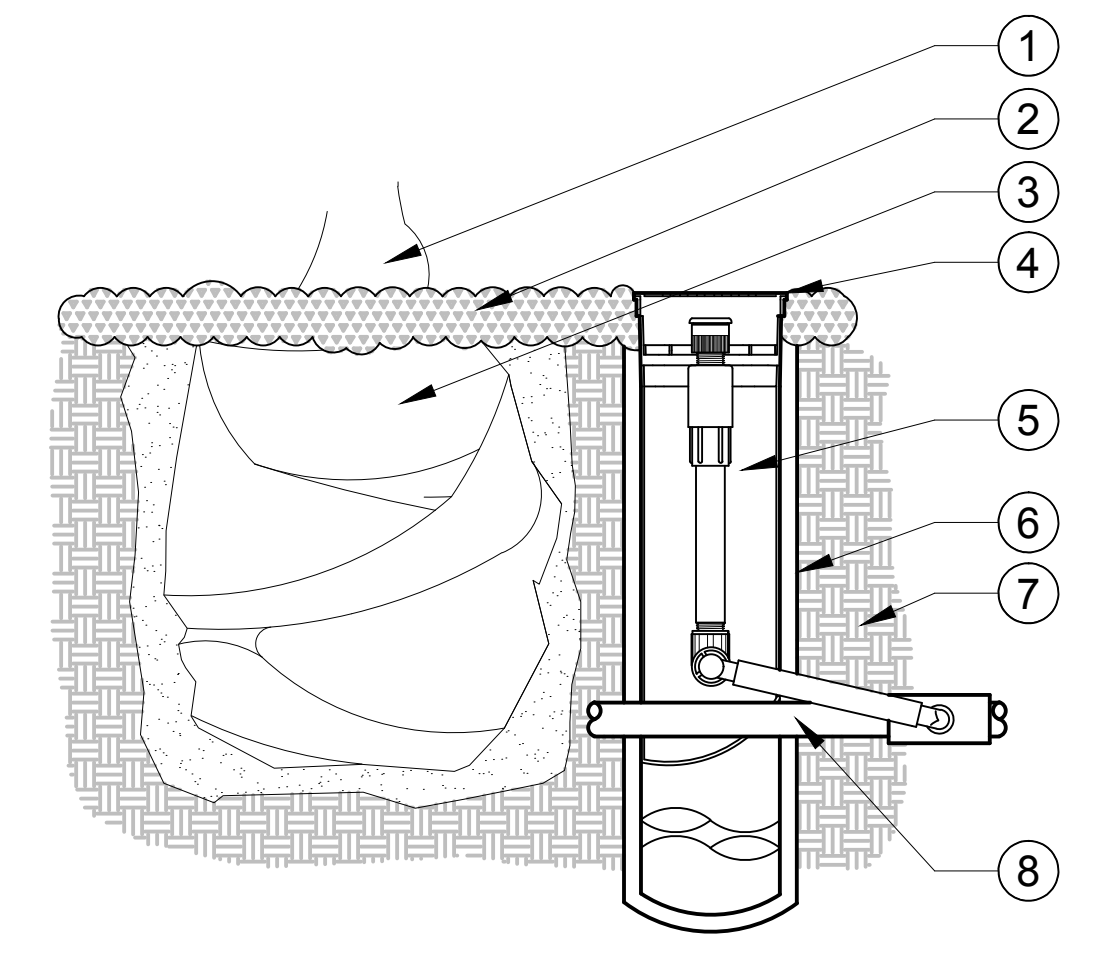
- LEGEND**
- ① CONTROL WIRE W/ 24" COILED EXPANSION LOOP
 - ② WATERPROOF WIRE CONNECTOR
 - ③ WATER VALVE I.D. TAG. (THREAD NYLON TIE THROUGH HOLE IN TAG)
 - ④ RECTANGULAR VALVE BOX WITH LID. SEE SPECIFICATIONS (DO NOT CUT ADDITIONAL HOLES IN BOX)
 - ⑤ CONTROL VALVE PER LEGEND, SIZE PER PLAN
 - ⑥ FINISH GRADE OF MULCH
 - ⑦ FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX, COVERING HOLES
 - ⑧ BACKFILL MATERIAL
 - ⑨ PVC SCH 80 MALE ADAPTER, 2 REQUIRED.
 - ⑩ PURPLE PRESSURE SUPPLY LINE FROM MANIFOLD
 - ⑪ GRAVEL BASE AND SUMP. (COMPACT GRAVEL FOR BOX BASE, DO NOT USE BLOCKS OR BRICKS, FILL GRAVEL TO BOTTOM OF VALVE.
 - ⑫ PVC SCH 80 SINGLE UNION, MIPT X FIPT MODEL
 - ⑬ PURPLE NON-PRESSURE LATERAL LINE, SEE PLAN FOR SIZE
- NOTE:**
A. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.

D REMOTE CONTROL VALVE SECTION SCALE: N.T.S.



- LEGEND**
- ① VALVE BOX WITH LID. SEE SPECIFICATIONS (DO NOT CUT ADDITIONAL HOLES IN BOX)
 - ② QUICK COUPLING VALVE, PURPLE CAP. REFER TO LEGEND.
 - ③ FINISH GRADE OF MULCH
 - ④ BACKFILL MATERIAL
 - ⑤ THREADED BRASS PIPE RISER. LENGTH AS REQUIRED, WRAP WITH PVC TAPE
 - ⑥ FILTER FABRIC (MIRAFI #140N, OR APPROVED EQUAL). WRAP 1 LAYER AROUND BOX, COVERING HOLES
 - ⑦ GRAVEL BASE AND SUMP. (COMPACT GRAVEL FOR BOX BASE, DO NOT USE BLOCKS OR BRICKS, FILL GRAVEL TO BOTTOM OF VALVE
 - ⑧ BRASS 90 DEGREE ELL, WRAP WITH PVC TAPE.
 - ⑨ CONCRETE THRUST BLOCK. 1 CU.FT MINIMUM
 - ⑩ BRASS COUPLING WITH PVC SCH 80 MALE ADAPTER, SLIP X MIPT, ON PURPLE PVC PRESSURE SUPPLY LINE.
 - ⑪ THREADED BRASS NIPPLE. LENGTH AS REQUIRED, WRAP WITH PVC TAPE
- NOTES:**
A. USE TEFLON TAPE ON ALL THREADED CONNECTIONS
B. PROVIDE TWO (2) WRAPS (WITH 1/4" OVERLAP) BLACK PVC ADHESIVE TO ALL BRASS EXPOSED TO CEMENT.

E QUICK COUPLING VALVE SECTION SCALE: N.T.S.



- LEGEND**
- ① TREE PER PLANTING DETAILS
 - ② MULCH MATERIAL PER PLANTING PLANS
 - ③ TREE ROOTBALL AND PLANTING BACKFILL
 - ④ TOP OF PURPLE GRATE FLUSH WITH FINISH GRADE
 - ⑤ PRE-ASSEMBLED DEEP WATERING TUBE. REFER TO LEGEND FOR MODEL NUMBER
 - ⑥ FILTER FABRIC SLEEVE FILLED WITH SANDY BACKFILL SOIL
 - ⑦ EXISTING SUB-GRADE
 - ⑧ PURPLE PVC LATERAL LINE. SEE PLANS FOR SIZE AND CLASS
- NOTE:**
1. POSITION UNITS SPACED EVENLY AROUND PLANTING PIT. NOT TO EXCEED 12" FROM EDGE OF ROOTBALL

F TREE BUBBLER ASSEMBLY SECTION SCALE: N.T.S.



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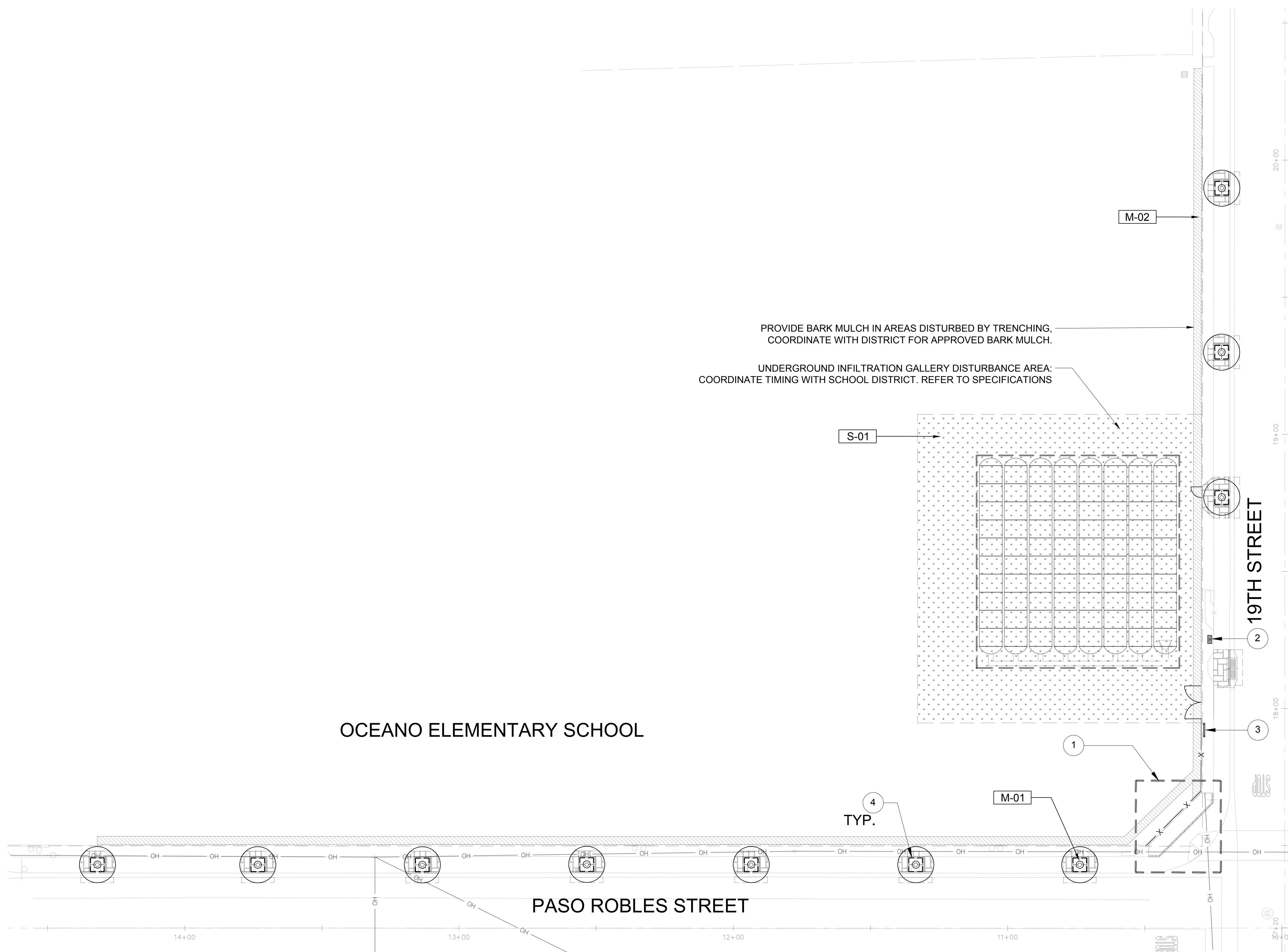
OCEANO ELEMENTARY SCHOOL
INFILTRATION & FRONTAGE IMPROVEMENTS

IRRIGATION DETAILS
LI-3.0
OCEANO, CA

DRAWN BY DJ	DATE 5/19/2023	CA JOB NO. 210534
CHECKED BY	SCALE	SHEET 16 OF 29

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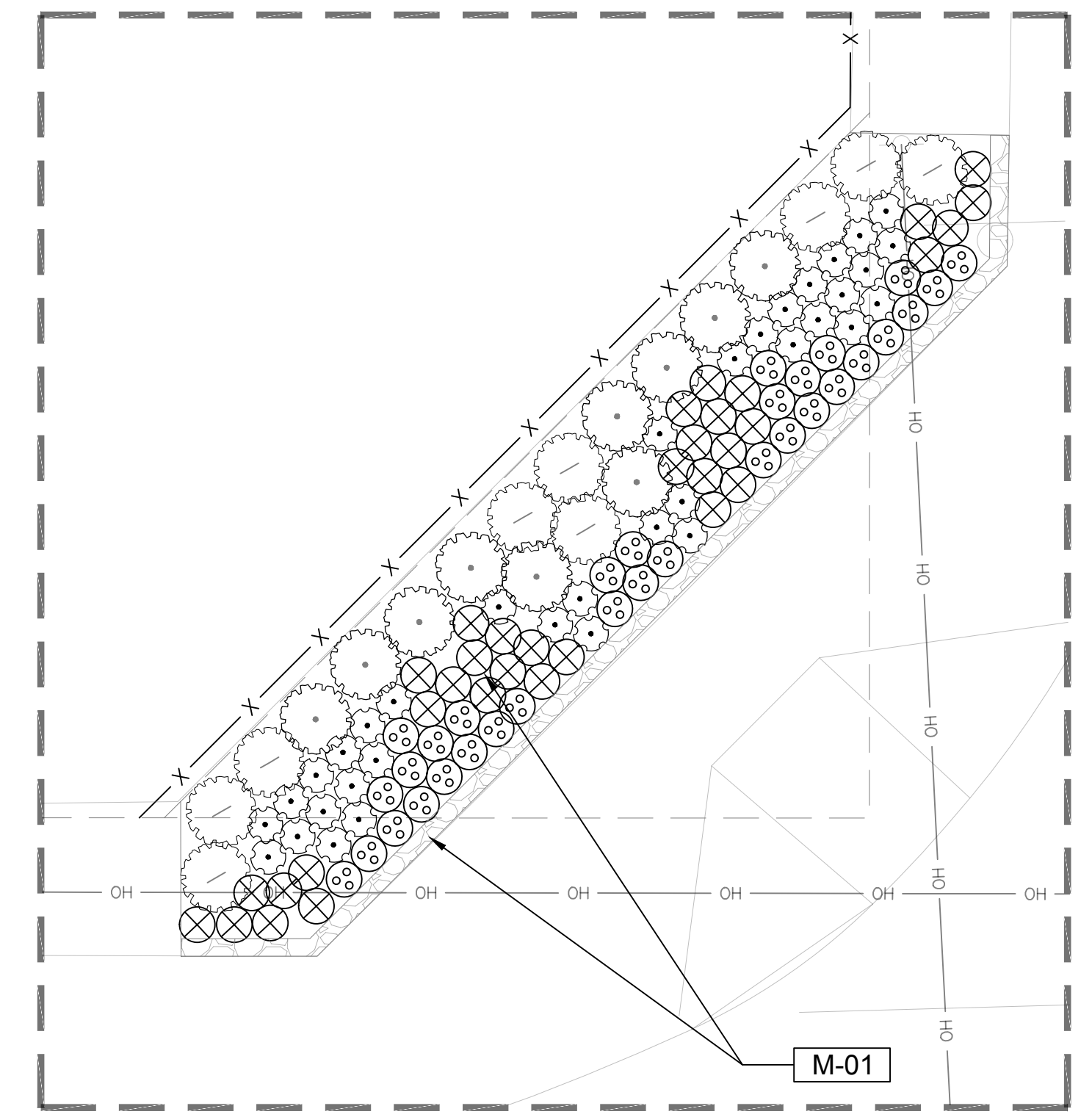
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PLANT SCHEDULE (PARTIAL)			
TREES	CODE	BOTANICAL / COMMON NAME	QTY
	CER OCC	CERCIS OCCIDENTALIS STD / WESTERN REDBUD	10
SHRUBS	CODE	BOTANICAL / COMMON NAME	QTY
	ACH APP	ACHILLEA MILLEFOLIUM 'APPLE BLOSSOM' / APPLE BLOSSOM COMMON YARROW	9
	ACH SCS	ACHILLEA MILLEFOLIUM 'SONOMA COAST' SONOMA COAST COMMON YARROW	10
	ESC CAL	ESCHSCHOLZIA CALIFORNICA 'ORANGE KING' / ORANGE KING CALIFORNIA POPPY	32
	FES IDA	FESTUCA IDAHOENSIS / IDAHO FESCUE	34
	LUP ALB	LUPINUS ALBRIFRONS VAR. COLLINUS / DWARF SILVER BUSH LUPINE	35

- SHEET NOTES**
- REFER TO SHEET LP-2.0 FOR FULL PLANT AND SOIL LEGENDS.
 - APPLY PEA GRAVEL MULCH IN ALL PLANTER AREAS.

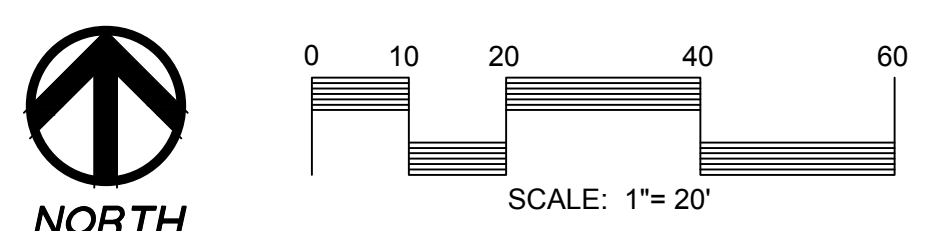
- KEY NOTES**
- REFER TO ENLARGEMENT 'A' THIS SHEET FOR SHRUBS AND GROUND COVER IN THIS LOCATION.
 - INTERPRETIVE SIGN: REFER TO DETAIL A,B / SHEET LP-4.0
 - CONSTRUCTION SIGN: REFER TO DETAIL C,D / SHEET LP-4.0
 - ROOT BARRIER, REFER TO DETAIL B, SHEET LP-3.0



A PLANTING ENLARGEMENT
SCALE: 1/4" = 1'-0"

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1	07/10/23	ISSUED FOR BID		DJ	DJ	CL

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INFILTRATION & FRONTAGE IMPROVEMENTS

PLANTING PLAN
LP-1.0
OCEANO, CA

DRAWN BY DJ	DATE 5/19/2023	CA JOB NO. 210534
CHECKED BY	SCALE	SHEET 18 OF 29

PLANTING NOTES:

- ALL FINISH GRADING AND LANDSCAPE OPERATIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT DRAWINGS, DETAILS, AND PROJECT SPECIFICATIONS. REFER TO PROJECT SPECIFICATIONS FOR ALL PLANTING REQUIREMENTS.
- SEE SHEET LP-3.0 FOR PLANTING DETAILS. SEE LANDSCAPE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE RESIDENT ENGINEER AND THE LANDSCAPE ARCHITECT IMMEDIATELY OF ANY CHANGED CONDITIONS WHICH OCCUR ON PROJECT SITE WHICH ARE NOT REFLECTED ON PLANS.
- REMOVE ALL WEEDS, DEBRIS, AND ROCKS LARGER THAN ONE-HALF-INCH (1/2") FROM ALL PLANTING AREAS, AND DISPOSE OF APPROPRIATELY OFF-SITE.
- FINISH GRADE OF SOIL SHALL BE TWO - INCHES (2") BELOW ADJACENT FINISH PAVING SURFACE OR CURB IN SHRUB AND GROUNDCOVER AREAS EXCEPT IN RECESSED BIORETENTION AREAS.
- CONTRACTOR SHALL INSTALL A THREE - INCH (3") LAYER OF ROCK/COBBLE MULCH IN ALL SHRUB AND GROUNDCOVER AREAS WITH SLOPES LESS THAN 3:1 GRADIENT. SUBMIT SAMPLE FOR APPROVAL BY RESIDENT ENGINEER AND LANDSCAPE ARCHITECT. REFER TO SPECIFICATIONS.
- ALL SLOPES 2:1 OR GREATER ARE TO BE STABILIZED WITH JUTE MESH PRIOR TO PLANTING. DO NOT INSTALL JUTE MESH ON SEEDED SLOPES. REFER TO SPECIFICATIONS.
- CONTRACTOR SHALL PROVIDE ELECTRONIC PHOTOGRAPHS OF ALL TREES FOR APPROVAL, PRIOR TO PURCHASE AND INSTALLATION. REFER TO SPECIFICATIONS.
- TREE LOCATIONS MAY BE ADJUSTED TO AVOID CONFLICTS WITH UNDERGROUND UTILITIES. CONSULT WITH LANDSCAPE ARCHITECT OR RESIDENT ENGINEER PRIOR TO ADJUSTMENT OF TREE LOCATIONS.
- CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AT THE TIME OF DELIVERY OF ANY PLANT MATERIAL WHICH HAS BEEN DAMAGED OR IS IN POOR CONDITION. THE RESIDENT ENGINEER SHALL DETERMINE ACCEPTABILITY OF SUBJECT PLANT MATERIAL.
- PLANT MATERIAL SHALL BE INSPECTED BY THE RESIDENT ENGINEER OR LANDSCAPE ARCHITECT BEFORE PLANTING. PLANT MATERIAL MAY BE REJECTED AT ANY TIME BY THE RESIDENT ENGINEER OR LANDSCAPE ARCHITECT DUE TO POOR CONDITION, FORM, OR DAMAGE PRIOR TO, DURING, OR AFTER THE PLANTING PROCESS.
- AT LEAST ONE PLANT OF EACH SPECIES DELIVERED TO THE SITE SHALL HAVE AN IDENTIFICATION TAG FROM THE SUPPLYING NURSERY SHOWING BOTH COMMON AND SCIENTIFIC NAMES.
- THE PLANTING PLANS ARE DIAGRAMMATIC. PLANT MATERIALS SHALL BE SPOTTED AS SHOWN ON THE DRAWINGS. TREE LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO THE EXCAVATION OF PLANTING PITS AND REMOVAL FROM CONTAINERS. FINAL LAYOUT OF ALL OTHER PLANT MATERIALS SHALL BE APPROVED IN THE FIELD BY THE RESIDENT ENGINEER OR LANDSCAPE ARCHITECT PRIOR TO PLANTING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PLANT COUNTS AND SQUARE FOOTAGES.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANT MATERIALS SUFFICIENT TO COVER AREAS SHOWN ON THE DRAWINGS AT THE SPECIFIED SPACING.
- NURSERY STAKES ARE TO BE REMOVED AFTER PLANTING TREES AND INSTALLATION OF STAKING OR GUYING, AS SHOWN ON PLANS.
- CONTRACTOR SHALL SUBMIT AN AGRICULTURAL SUITABILITY AND FERTILITY ANALYSIS REPORT, AS NOTED IN THE PLANTING SPECIFICATIONS, TO THE LANDSCAPE ARCHITECT AND THE RESIDENT ENGINEER FOR APPROVAL PRIOR TO ANY PLANTING WORK OR SOIL AMENDMENT INCORPORATION. THE RECOMMENDATIONS OF THE SOILS ANALYSIS REPORT FOR TOPSOIL AMENDMENT AND BACKFILL MIX AMENDMENT SHALL SUPERSEDE THE RECOMMENDATIONS LISTED IN THE SPECIFICATIONS.
- CONTRACTOR SHALL COORDINATE LANDSCAPE WORK WITH THE WORK OF OTHER TRADES AND PROFESSIONS. CONTRACTOR SHALL MAINTAIN PROPER DRAINAGE DURING THE COURSE OF CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF EXISTING PROPOSED UTILITIES WITHIN THE PROJECT LIMITS WHICH MAY BE AFFECTED BY INSTALLATION. IMMEDIATELY CONTACT THE LANDSCAPE ARCHITECT IF A CONFLICT IS EVIDENT.
- REMOVE ALL TYING MATERIALS, MARKING TAPES, AND NURSERY STAKES AT THE TIME OF PLANTING.
- CONTRACTOR SHALL PROTECT EXISTING VEGETATION AND OTHER IMPROVEMENTS OUTSIDE THE LIMITS OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY DAMAGES INCURRED DURING CONSTRUCTION.

- THE MAINTENANCE PERIOD SHALL BEGIN ONLY UPON WRITTEN ACCEPTANCE OF THE COMPLETED PLANTED AREAS BY THE LANDSCAPE ARCHITECT AND THE RESIDENT ENGINEER.
- PROVIDE MATCHING FORMS AND SIZES FOR ALL PLANT MATERIAL WITHIN EACH SPECIES AND SIZE DESIGNATED BY THE DRAWINGS.
- ALIGN AND EQUALLY SPACE, IN ALL DIRECTIONS, ALL PLANT MATERIAL WITHIN EACH SPECIES SO DESIGNATED PER THESE NOTES AND DRAWINGS.
- FURNISH ALL DELIVERY SLIPS OF THE SPECIFIED AMENDMENTS TO THE CONSTRUCTION MANAGEMENT SUPERVISOR AND LANDSCAPE ARCHITECT FOR REVIEW AFTER PLANT INSTALLATION. IF IT IS DETERMINED MORE AMOUNTS ARE NEEDED, CONTRACTOR WILL BE REQUIRED TO ADD INTO SOIL WITH OBSERVATION OR PROVIDE CREDIT BACK TO OWNER.
- ALL PLANTING AREAS SHALL BE GRADED TO HAVE POSITIVE DRAINAGE (2% MIN.) AWAY FROM THE BUILDING WALLS AND STRUCTURES AND TOWARDS AREA DRAINS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING LANDSCAPE WITHIN SCOPE AREA. ALL PLANTING WITHIN SCOPE OF WORK AREAS ARE TO BE KEPT FREE OF LITTER AND DEBRIS. ALL PLANTS SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION. ALL DISEASED OR DEAD PLANTS SHALL BE REPLACED IMMEDIATELY. REPLACE PLANTINGS IF DAMAGED, WITH LIKE SIZE, DURING CONSTRUCTION.
- CONTRACTOR SHALL BE HELD RESPONSIBLE FOR REPLACEMENT OF ALL PLANTINGS DAMAGED DURING IRRIGATION REPAIR OR PLANTING INSTALLATION.

MINIMUM TREE SEPARATION DISTANCE

IMPROVEMENT	MINIMUM DISTANCE TO STREET TREE
TRAFFIC SIGNAL, STOP SIGN	20 FEET
UNDERGROUND UTILITY LINES	5 FEET
SEWER LINES	10 FEET
ABOVE GROUND UTILITY STRUCTURES (TRANSFORMERS, HYDRANTS, UTILITY POLES, ETC)	10 FEET
DRIVEWAYS	10 FEET
RESIDENTIAL STREETS RATED AT 25 MPH OR LOWER	5 FEET
INTERSECTIONS (INTERSECTING CURB LINES OF TWO STREETS)	25 FEET

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	WUCOLS	MIN HEIGHT	MIN WIDTH	QTY	REMARKS	DETAIL
	CER OCC	CERCIS OCCIDENTALIS STD WESTERN REDBUD	36" BOX	VERY LOW	11'-13'	5'-6"	10	MINIMUM BARE TRUNK HEIGHT 8FT PER COUNTY OF SAN LUIS OBISPO STANDARD DETAIL M-5.	A, B, D / LP-3.0
SHRUBS	CODE	BOTANICAL / COMMON NAME	SIZE	WUCOLS	MIN HEIGHT	MIN WIDTH	QTY	REMARKS	DETAIL
	ACH APP	ACHILLEA MILLEFOLIUM 'APPLE BLOSSOM' APPLE BLOSSOM COMMON YARROW	1 GAL	LOW	0'-6"	0'-6"	9	GREEN AND BUSHY	C / LP-3.0
	ACH SCS	ACHILLEA MILLEFOLIUM 'SONOMA COAST' SONOMA COAST COMMON YARROW	1 GAL	LOW	0'-6"	0'-6"	10	GREEN AND BUSHY	
	ESC CAL	ESCHSCHOLZIA CALIFORNICA 'ORANGE KING' ORANGE KING CALIFORNIA POPPY	4"POT	VERY LOW	0'-4"	0'-2"	32	FULL AND BUSHY, GOOD COLOR	
	FES IDA	FESTUCA IDAHOENSIS IDAHO FESCUE	4"POT	VERY LOW	0'-4"	0'-2"	34	FULL CLUMPS, GOOD COLOR	
	LUP ALB	LUPINUS ALBIFRONS VAR. COLLINUS DWARF SILVER BUSH LUPINE	4" POT	VERY LOW	0'-4"	0'-2"	35	FULL AND BUSHY, GOOD COLOR	

GRASS SEED LEGEND

KEY	SYMBOL	SPECIES	APPLICATION	NOTES AND REMARKS	SUPPLIER INFORMATION	DETAIL
S-01		WHITTET-KIKUYU GRASS -95% MINIMUM PURITY -80% MINIMUM GERMINATION	BROADCAST SEED AT A RATE OF 2 LBS PER 1000 SQUARE FEET WITHIN ENTIRE DISTURBANCE AREA OF EXISTING SPORTS LAWN.	REFER TO SPECIFICATIONS AND MANUFACTURER RECOMMENDATIONS.	STOVER SEED COMPANY 9180 SAN FERNANDO ROAD, SUN VALLEY, CA 91352	-

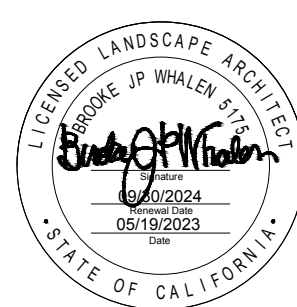
SITE MULCH LEGEND

KEY	SYMBOL	DESCRIPTION	COLOR AND FINISH	NOTES AND REMARKS	SUPPLIER INFORMATION	DETAIL
M-01		3/4" PEA GRAVEL	CALIFORNIA GOLD	3" MINIMUM LAYER, WITHIN ALL PLANTING AREAS	AIR VOL BLOCK: 1 SUBURBAN RD, SAN LUIS OBISPO, CA 93401	-
M-02		BARK MULCH	WALK-ON BARK MULCH, BROWN	3" MINIMUM LAYER IN AREAS OF DISTURBANCE, SEE PLAN	AIR VOL BLOCK: 1 SUBURBAN RD, SAN LUIS OBISPO, CA 93401	-

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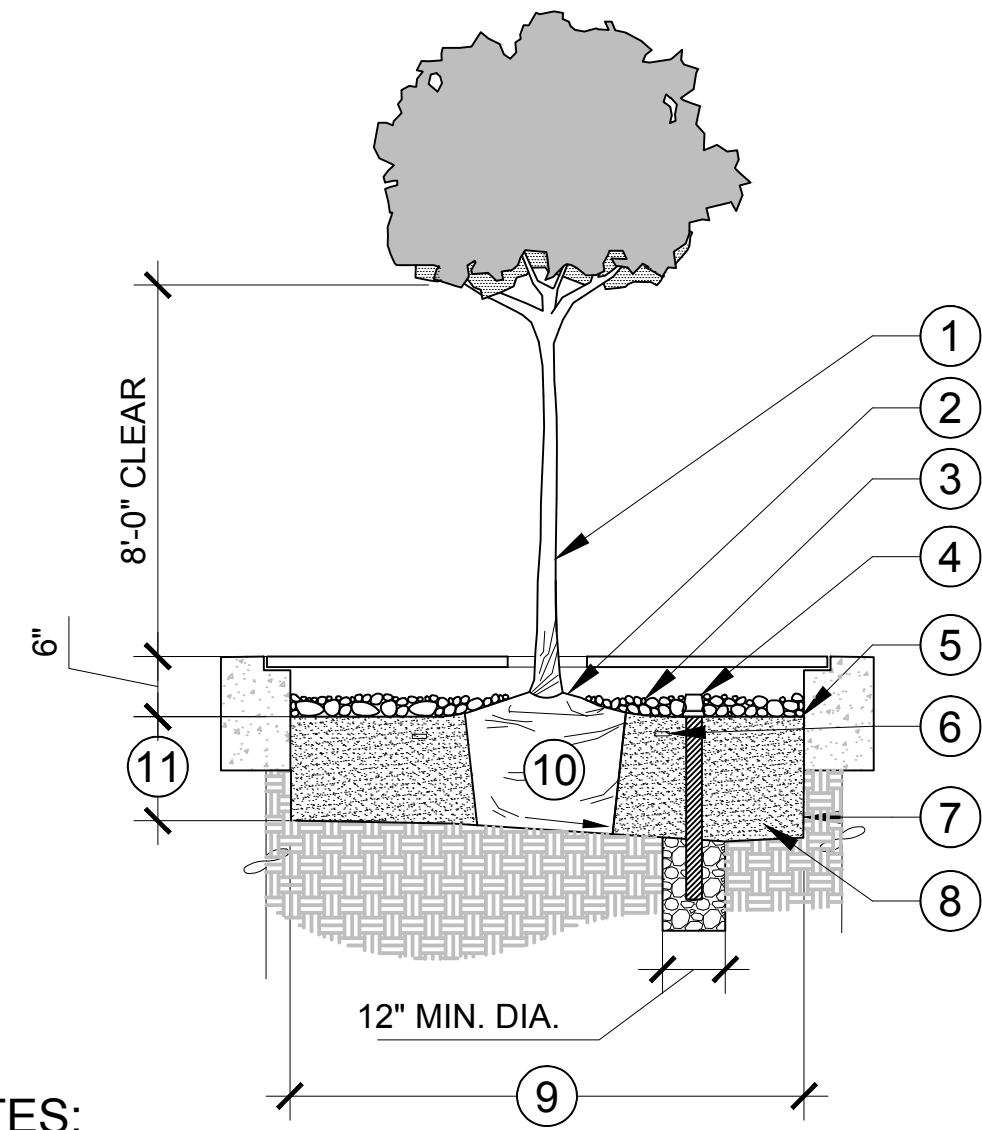
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PLANTING NOTES AND LEGEND
LP-2.0
OCEANO, CA

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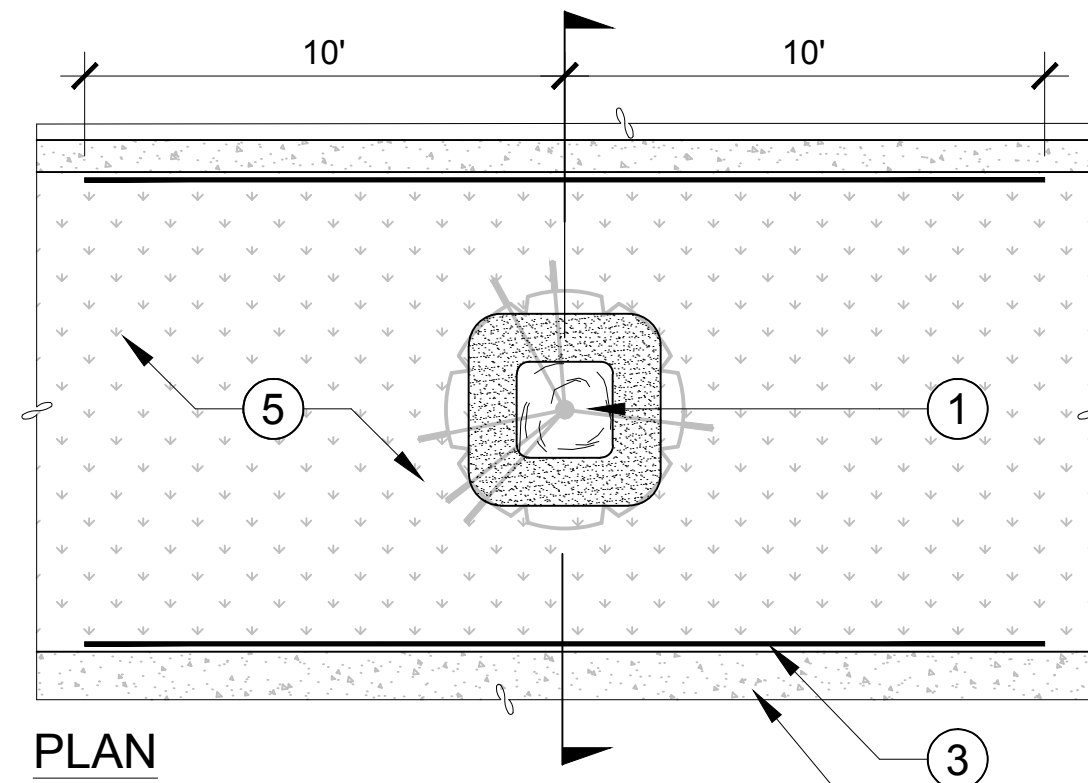


LEGEND

- ① TREE TRUNK
- ② TREE COLLAR (PLANT PER SPECS)
- ③ PEA GRAVEL MULCH, REFER TO LEGEND AND PLANTING NOTES FOR DEPTH AND TYPE
- ④ TREE OBSERVATION TUBE
- ⑤ FINISH GRADE
- ⑥ PLANT TABLETS (3" BELOW GRADE)
- ⑦ PLANTING PIT W/ ROUGHENED SIDES
- ⑧ AMENDED BACKFILL MIX (PUDDLE AND SETTLE) REFER TO SPECIFICATIONS
- ⑨ WIDTH OF TREE WELL
- ⑩ ROOTBALL
- ⑪ DEPTH OF ROOTBALL

NOTES:

- A. REFER TO NOTES AND LEGEND, SHEET LP- 2.0 FOR PLANTING PROCEDURES AND ADDITIONAL INFORMATION.
- B. REMOVE FROM BOX WITH AS LITTLE DISTURBANCE TO THE ROOTBALL AS POSSIBLE.

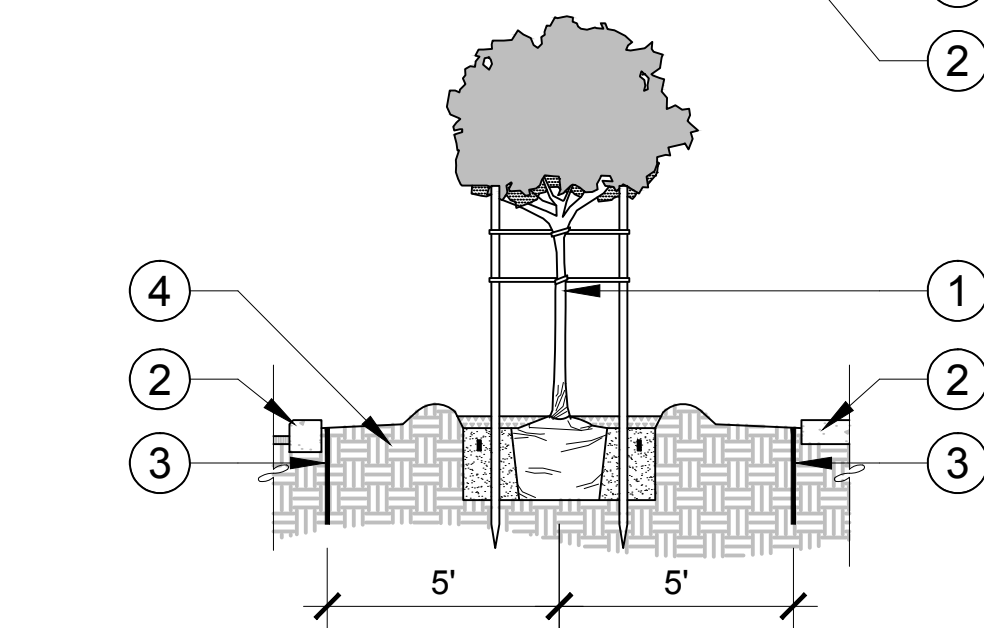


LEGEND

- ① TREE PLANTING PER PLANTING LEGEND AND DETAILS
- ② ADJACENT HARDSCAPE EDGE, FINISH GRADE OF PLANTING AREA TO BE 2" BELOW
- ③ ROOT BARRIER AS REQUIRED (SEE NOTES BELOW)
- ④ TOPSOIL AND SUBGRADE PER CIVIL PLANS
- ⑤ ADJACENT GROUNDCOVER OR SHRUB PLANTING

NOTES:

- A. ROOT BARRIERS SHALL BE INSTALLED WHEN TREES ARE WITHIN 5' OF HARDSCAPE U.N.O.
- B. WHERE POSSIBLE INSTALL 10' EACH SIDE OF TRUNK MEASURED PARALLEL TO HARDSCAPE X 24" DEEP.
- C. INSTALL PARALLEL TO WALKS & CURBS.
- D. DO NOT ENCIRCLE TREE IF POSSIBLE.
- E. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.



SECTION

A TREE WELL PLANTING WITH OBSERVATION TUBE

SECTION

SCALE: N.T.S.

B ROOT BARRIER

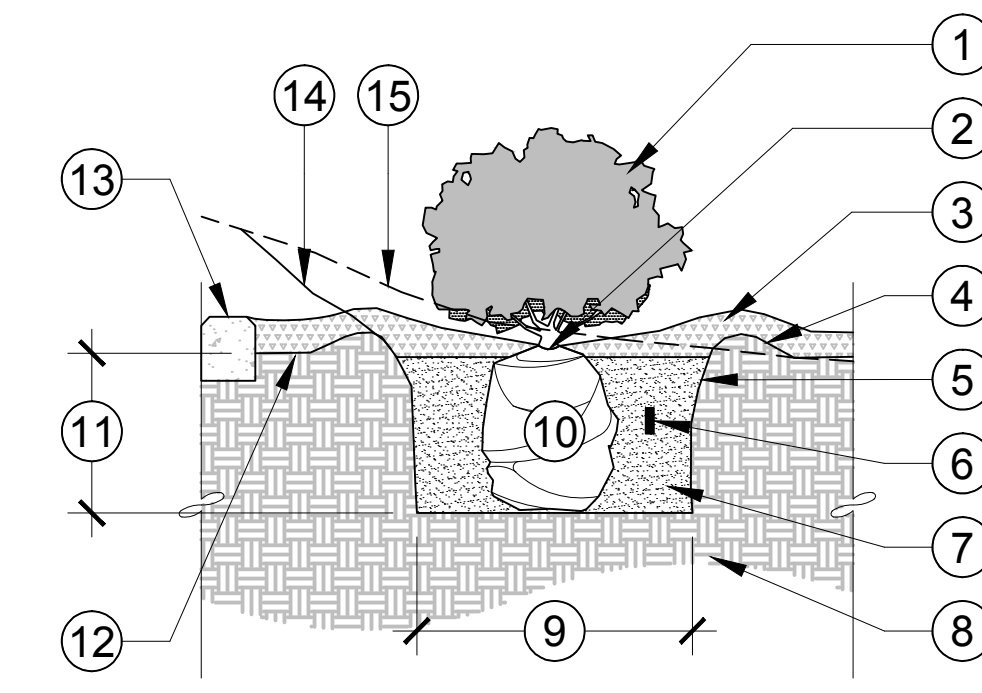
SECTION

SCALE: 1/4"=1'-0"

C SHRUB PLANTING

SECTION

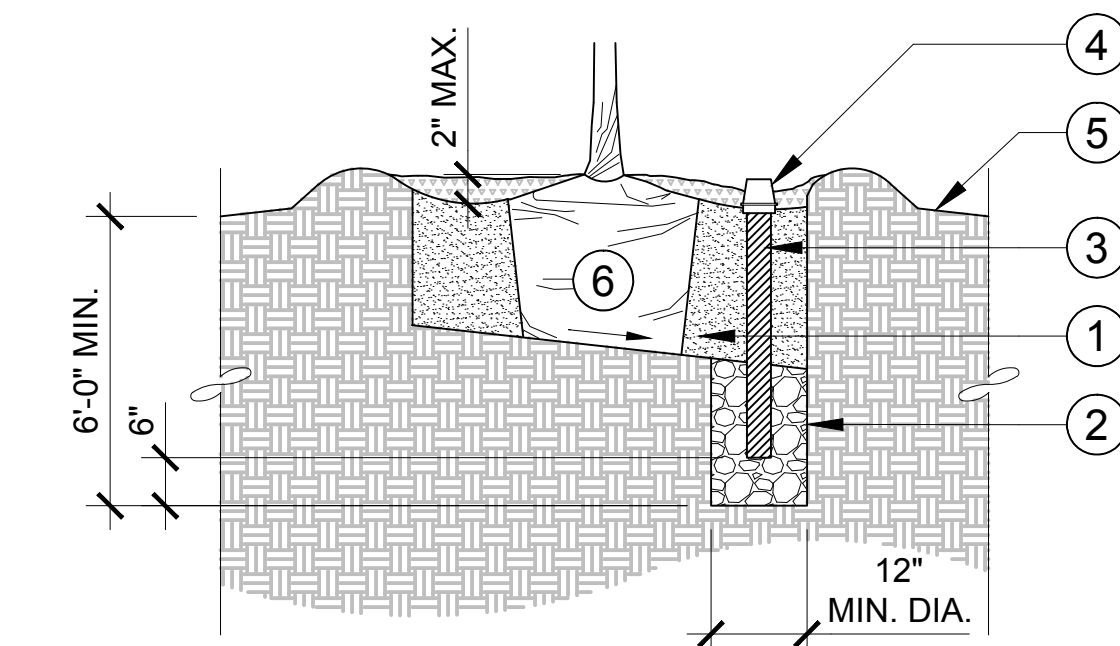
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LEGEND

- ① SHRUB
- ② SHRUB CROWN (1" ABOVE FINISH GRADE)
- ③ MULCH, REFER TO SPECS. & PLANTING NOTES FOR DEPTH & TYPE
- ④ 4" HIGH WATERING BERM ALL AROUND
- ⑤ PLANT PIT W/ ROUGHENED SIDES
- ⑥ PLANT TABLETS (3" BELOW GRADE)
- ⑦ AMENDED BACKFILL MIX (PUDDLE & SETTLE)
- ⑧ TOPSOIL AND SUBGRADE PER CIVIL PLANS
- ⑨ 2X ROOTBALL DIAMETER MIN.
- ⑩ ROOTBALL
- ⑪ DEPTH OF ROOTBALL
- ⑫ SET FINISH GRADE EQUAL TO THE DEPTH OF MULCH BELOW FINISH SURFACE OF PAVING (WHERE APPLICABLE)
- ⑬ CURB OR PAVING (WHERE APPLICABLE)
- ⑭ NEW FINISH GRADE AT SLOPE (WHERE APPLICABLE)
- ⑮ EXISTING FINISH GRADE AT SLOPE (WHERE APPLICABLE)

PLAN



SECTION

LEGEND

- ① BACKFILL MIX
- ② GRAVEL FILL AROUND PIPE
- ③ 4" DIA PERFORATED PIPE WITH FILTER SOCK (LENGTH AS REQUIRED)
- ④ PLASTIC ATRIUM DRAIN GRATE
- ⑤ FINISH GRADE
- ⑥ UNDISTURBED ROOTBALL

NOTES:

- A. EXTEND PERFORATED PIPE BELOW BOTTOM OF ROOTBALL. SLANT BOTTOM OF PLANTER PIT TO ALLOW ACCUMULATED WATER TO COLLECT AT BASE OF PERFORATED PIPE. SIPHON OFF AS REQUIRED TO PREVENT ROOT ROT.
- B. DO NOT FILL PERFORATED PIPE WITH GRAVEL.

D TREE OBSERVATION TUBE DETAIL

SECTION

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INFILTRATION & FRONTAGE IMPROVEMENTS

PLANTING DETAILS
LP-3.0
OCEANO, CA

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Oceano Solutions for Stormwater

Project Background
 Oceano experiences nuisance flooding in localized areas. Urbanization led to an increase in impervious surfaces (pavement and concrete) and a decrease in the ability of the underlying soil to absorb stormwater runoff. The soils beneath Oceano are extensively sandy, making it a prime location for infiltration projects. Through the process of capturing and infiltrating rainwater, flooding is reduced during small to medium sized storm events.

The Oceano Community Services District (OCSD) obtains their municipal water supply in part from the Santa Maria River Groundwater Basin. In addition to flood abatement, the process of infiltrating rainwater helps to recharge this ground water supply, rather than allowing it to wash into Arroyo Grande Creek and the Pacific Ocean.

Street Improvements
 Bioretention tree planters installed as a part of the project along Paso Robles Street and 19th Street allow stormwater runoff from the roadway to be collected, treated through natural systems and infiltrated back into the ground.

Rather than replacing concrete sidewalk removed for the project, pervious pavers were selected to allow rainwater to infiltrate into the soils below.

Infiltration Gallery
 An infiltration gallery is a series of open chambers that collect rainwater and hold it underground until it infiltrates through the underlying soils. This water recharges groundwater basins and helps secure a clean water supply.

This location at the Oceano Elementary School was chosen due to the ability to capture and divert stormwater runoff from an over 11 acre watershed into the infiltration gallery. The gallery has a holding capacity of approximately 180,000 gallons of water. Based on the average local rainfall, an estimated 2,300,000 gallons of water per year will be infiltrated at this site.

MANUFACTURER INFORMATION:
 IZONE IMAGING
 WEBSITE: IZONEIMAGING.COM
 PHONE: (254) 778-0722

A INTERPRETIVE SIGNAGE GRAPHIC

SCALE: N.T.S.

B INTERPRETIVE SIGN SECTION

SCALE: N.T.S.

Funding for this project has been provided in full or in part under the Proposition 1 - the Water Quality, Supply, and Infrastructure Improvement Act of 2014 through an agreement with the State Water Resources Control Board.

C CONSTRUCTION SIGNAGE GRAPHIC

SCALE: N.T.S.

D CONSTRUCTION SIGN SECTION

SCALE: 1/2" = 1'-0"



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SIGNAGE DETAILS LP-4.0 OCEANO, CA		
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b) Type 2 Mulch (rock, gravel, or cobble) shall be pebble, or cobble in the size specified in the Contract Documents. Type 2 Mulch shall comply with the requirements specified in Section 200-1.7.

Perennial Sorrel and/or Bromegrass.

a reduction or addition in cost shall be adjusted in the contract cost.

equal.

800-1.3 Seed. DELETE in its entirety and SUBSTITUTE with the following:

1. Seed shall be fresh, clean, new crop seed, and mechanically premixed to the specified proportions.
2. Seed shall be delivered to the Work site in original unopened containers bearing the dealer's "Guaranteed Analysis", germination percentage, and a certificate, stamp, or release by a County Agricultural Commissioner. Any seed tagged "Warning, Hold for Inspection" shall be inspected and released by the Agricultural Commissioner of the County within which the seeds are to be planted.
3. All seed used for lawn, erosion control, or other planting specified on the Plans or listed in the specifications shall be furnished in labeled and sealed standard containers with duplicate signed copies of a statement from the vendor certifying that each container of seed delivered is fully labeled in accordance with the California State Agricultural Code stating the certified percent of purity and germination.
4. Seed which has become wet, moldy, or otherwise damaged in transit or storage shall not be accepted.
5. Custom seed blends shall have the Project name printed on the seed tag. Prior to the start of any seeding operation, custom seed blends shall be inspected and approved by the Engineer once delivered to the Site.
6. Turf Seed Species: Turf seed species shall be Whittet- Kukuyu manufactured by Stover Seed Company, located at 9180 San Fernando Road, Sun Valley, CA 91352, www.stoverseed.com, or approved equal.
7. Seed shall have 95% minimum purity and 80% minimum germination.

4. All plants shall equal or exceed any measurements specified and shall be supplied from the source indicated when a source is specified.
5. Tree trunks shall be sturdy and well "hardened off".
6. Plants shall have normal well-developed branch systems and vigorous and fibrous roots systems which are neither root nor pot bound and are free of kinked or girdling roots.
7. Other than the normal side pruning during the growth period, pruning shall not be done prior to inspection at the nursery. At no time shall the plant materials be pruned, trimmed, or topped prior to delivery, and any alteration on the site of their shape shall be conducted only with the approval and in the presence of a certified arborist.
8. The scientific and common names of plants specified shall conform to the approved names given in the "Western Garden Book" published by Sunset Publishing, Menlo Park, CA.
9. When delivered on site, each group of plant materials shall be labeled clearly from the nursery source as to species and variety. Patented plants (cultivars) required by the plant list shall be delivered with a proper plant patent attached. Any plants which are not labeled or are not as indicated on the Plans and Specifications shall be rejected and shall be removed from the site immediately.

14. Container stock: Shall have grown in containers for at least six (6) months and through one (1) full growing season, but not over two (2) years. Samples shall be shown to prove that no girdled roots, circled roots, and/or root-bound conditions are present. Any such trees or shrubs shall be deemed as not acceptable. All container plants or trees that have a cracked or broken rootball when taken from the container shall not be planted except on special approval from the District or the Architect.
15. Root condition: The Architect reserves the right to inspect root condition of any species, particularly those grown from seed, and if found defective, to reject the plants represented by the defective sample.
16. Protection: All plants at all times shall be handled and stored so that they are adequately protected from drying out, from wind burn, and from all other injury. All plants determined by the Architect or District to be wilted, burned, or dried out, may be rejected at any time, whether in the ground or not. All plants shall be handled solely by their containers and all plants that have been handled by the stem or trunk shall be rejected, and removed from the site immediately. The Contractor's on-site plant storage area shall be approved by the General Contractor prior to the delivery of any plant materials.

b) Root barrier shall have the following characteristics:

Property	ASTM	Value
Tensile Stress Yield	ASTM 638	3800 PSI
Elongation @ Break%	ASTM D638	10% (varies by product length)
Tensile Modulus	ASTM D638	155,000 PSI
Notched Izod Impact	ASTM D256A	0,4-4,0 (varies by product length)
Flexural Modulus	ASTM D790	145,000 PSI (varies by product length)
Hardness Shore	ASTM D2240	P66 (varies by product length)

2. Installation:

- a) Install root barrier as per manufacturer's recommendations.
- b) Root barrier shall be installed where trees are planted within five-feet (5') of paving or other hardscape elements or wet utilities (such as walls, curbs, walkways, etc.).
- c) Root barrier shall be aligned vertically and run in a linear fashion, along and directly adjacent to paving or other hardscape elements or wet utilities to be protected.
- d) Install root barrier along the edge of paving or hardscape element for a distance of 10 feet (10') in each direction from the tree trunk, for a total of twenty-feet (20') per affected tree. Where trees are closer than ten-feet (10') apart, a single continuous piece of root barrier shall be used. The Engineer may allow for alterations to the root barrier in order to accommodate necessary root locations based upon an arborist report.
- e) Root barrier shall not surround root ball of tree at any time except where trees are surrounded by paving (as in courtyard tree groves).
- f) Tops of root barriers are to be 1/2" above finish grade of soil, with no portion visible above mulch.
- g) Do not damage root barrier during construction activities.
- h) Fasten root barrier panels together at splices with zipper joining system

800-1.4.1 General. DELETE in its entirety and SUBSTITUTE with the following:

1. Plants shall be inspected and approved by the Engineer prior to planting at the time of arrival to the job site. Prior to 15 Working Days before installation, the contractor shall submit photos of all proposed plants to be used in accordance with 3-8.1.1, "Landscape Submittals".
2. Plants shall have a growth habit normal to the species and shall be sound, healthy, vigorous, and free from insect pests, plant diseases, sun scalds, fresh bark abrasions, excessive abrasions, or other objectionable disfigurements.
3. Plant materials shall not contain any deleterious, obnoxious, or invasive weeds such as (not all inclusive): Quackgrass, Johnsongrass, Poison Ivy, Nutsedge, Nimbwill, Canada Thistle, Bindweed, Bentgrass, Wild Garlic, Ground Ivy,

10. Inspection of plant materials: Plants shall be subject to inspection and approval or rejection at the project site at any time before or during progress of work for size, variety, condition, latent defects and injuries. Rejected plants shall be removed from the project site immediately.
11. Inspection of plant materials required by District, county, state, and/or federal authorities, and/or other regulatory agencies, shall be the responsibility of the Contractor. When necessary, the Contractor shall have secured permits or certificates prior to delivery of plants at site.
12. Rejection and substitution: All plants not conforming to the requirements herein specified and/or as indicated on the drawings shall be considered defective, and such plants, whether in place or not, shall be marked as rejected and be immediately removed from the site of the work and replaced with acceptable plant materials. Under no condition will there be any substitution of plant species, variety, or reduced size for those listed on the accompanying drawings, except with the express written consent of the Landscape Architect.
13. Right to changes: The Architect reserves the right to change the plant species, plant variety, and/or sizes of plant material to be furnished, provided that the cost of such plant changes does not exceed the cost of plants in the original bid. The Contractor shall be notified in writing sixty (60) days before the planting operation has commenced. Field changes to the plant species, plant variety, and/or sizes of plant material might be required due to current availability and shall be coordinated with the Architect and District. Changes in the size and/or variety of any plant to be furnished which involves

800-1.4.2 Trees. ADD the following:

1. Trees shall have a uniform trunk taper from the base of the tree, continuing up the main leader. Palms shall be un-skinned unless specified otherwise.
2. Trees with naturally occurring central leaders shall remain un-pruned or unaltered from the nursery.

800-1.5.4 Tree Ties.

1. Tree ties shall be manufactured of virgin flexible vinyl meeting ASTM-D412 standards for tensile and elongation strength. Material shall be black or ultraviolet resistance.
2. Tree ties shall be manufactured with a double back locking configuration and secured with one galvanized nail to prevent slippage.
3. Tree ties shall elongate with the tree growth and shall prevent damage to the tree.
4. Tree ties shall be "Cinch Tie" or approved equal.

ADD:

800-1.7 Tree Root Barrier.

1. Product:
 - a) Polyethylene (0.08 inch thick) or polypropylene (2.032 - 2.16 mm thick), with self-locking joiners, 1/2" raised 90 degree molded root deflecting ribs, ground lock tabs, double top edge, UV inhibitors. Use 24" barrier unless otherwise stated. Root barrier by Deep Root, 101 Montgomery Street, Suite 2850, San Francisco, CA 94104, 415-781-9700, or approved

ADD:

800-1.8 Landscape Filter Fabric.

1. Product:

- a) Geotextile filter fabric shall be a nonwoven geotextile composed of polypropylene fibers, formed into a stable network such that fibers retain their relative position.
- b) Geotextile filter fabric shall be inert to biological degradation and resist naturally encountered chemicals, alkalis, and acids.



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- a) Two (2) irrigation heads with nozzles of each type used for every irrigation head installed.
- b) One (1) valve key for quick coupler assemblies installed or portions thereof.

800-3.2.1 Conduit. DELETE in its entirety and SUBSTITUTE with the following:

1. Rigid non-metallic conduit shall conform to the requirements of the UL Standard for Rigid Non-Metallic Conduit, Publication UL 651 (PVC Schedule 80) and UL 651B (HDPE). Rigid non-metallic conduit connections shall be of the solvent weld type. For underground installation, conduit shall be UL approved heavy wall polyvinyl chloride (PVC Schedule 40) unless specified otherwise on the Plans or Special Provisions.
2. A manufactured weatherproof plastic identification tag showing the irrigation controller and station shall be affixed to the colored conductor wire in each valve and pull box.
3. Common Wires and Tracer Wires: Common wires shall match existing wire type and gauge, and color coded the same as existing common wire connecting to. Tracer wires shall be #12 AWG direct burial type.
4. Wire Bundles: Tape wire bundles with colored vinyl electrical tape 10 feet (3 m) on center. Use different color tape for each controller.

ADD:

800-3.2.2.1 Wire Connectors.

1. Wire connectors for direct burial irrigation control wires of 30 volts or less shall be capable to accommodate #18, #14, #12 and #10 gauge wire sizes and shall be designed to ensure waterproof connections. The wire connector kit shall contain a UL and CSA listed copper crimp sleeve, polyethylene connector body, and polyethylene connector plug. The connector plug shall be filled with blue color self-curing epoxy resin sealant immediately prior to assembly of the wire connector to fully waterproof the connection.
2. Wire connectors shall be installed in accordance with the manufacturer's recommendations.

ADD:

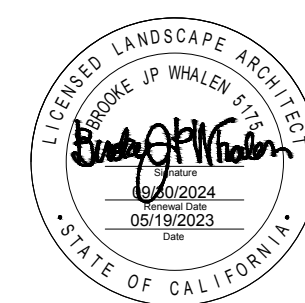
800-3.2.2.2 Trench Marker Tape.

Trench marker tape for irrigation systems supply lines shall be 3 inches wide and consist of a minimum 5.0 mil overall thickness with a 0.35 mil solid aluminum foil core. Marker tape shall be acid, alkaline and corrosion resistant. Lettering shall be 1 inch (25.4 mm) height minimum, with purple color designation and with the words "Non-Potable Irrigation".

SECTION 801 - INSTALLATION



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801-1 GENERAL. DELETE in its entirety and SUBSTITUTE with the following:

1. This section includes specifications for the preparation, planting, and irrigation system construction for landscape areas shown on the Plans.
2. Unless otherwise specified, walls, curbs, planter boxes, walks, irrigation systems, and similar improvements shall be constructed following rough grading and before landscaping and irrigation work.
3. Work on the irrigation system including hydrostatic tests, backfill and densification of trenches, and other excavations shall be performed before topsoil placement. Preliminary operational tests of the automatic control system and coverage tests shall be performed after topsoil placement.

801-2.2.1 General. DELETE in its entirety and SUBSTITUTE with the following:

1. Unless otherwise specified on the Plans or Special Provisions, the topsoil shall be Class A and shall be 15 inches (381 mm) thick.
2. Planting areas shall be free of weeds and other extraneous materials to a depth of 12 inches (304.8 mm) below finish grade before topsoil Work.
3. Soil shall not be worked when it is so wet or so dry as to cause excessive compaction or the forming of hard clods or dust.
4. The existing soil below subgrade for Class "A" and Class "B" topsoils shall be scarified in a cross pattern to a depth of 6 inches (152.4 mm) prior to placement of topsoil. Stones over 1 inch (25.4 mm) in greatest dimension shall be removed from the scarified area. The subgrade depth shall be verified by the Engineer prior to topsoil import.
5. Class "C" topsoil shall be scarified and cultivated to a finely divided condition to a depth of 8 inches (203.2 mm) minimum below finish grade. During this operation, all stones over 1 inch (25.4 mm) in greatest dimension shall be removed.
6. The soil shall be prepared in accordance with the recommendations of the soil analysis results stated in 800-1.1.2, "Class 'A' Topsoil".

801-2.2.2 Fertilizing and Conditioning Procedures. DELETE in its entirety and SUBSTITUTE with the following:

1. All planter areas shall be deep-ripped and loosened to a depth of 12-inches in all directions.
2. All sub-surface rocks over 2-inches in diameter and other underground obstructions shall be removed to the depth necessary to permit proper fine grading, tilling, or planting according the the plans and specifications to a minimum depth of 12-inches.
3. The planting area shall be brought to finish grade before spreading the fertilizers or soil conditioning materials specified in the soil test recommendations.

4. If leaching is required per the recommendations of the soil test recommendations, amendments shall be blended into the soil prior to leaching with the exception of soil conditioner, gypsum, soil sulfur, iron sulfate, and pre-plant fertilizer. Leaching shall be performed until analysis results are in compliance with agriculture suitability standards. Soil amendment materials shall be uniformly spread at the prescribed rate as recommended in the soil test recommendations.

5. The quantities of materials necessary for the planting areas shall be at the Work site and verified by delivery tickets furnished to the Engineer before spreading.

6. After spreading, the soil amendments shall be cultivated into the upper 15 inches (381 mm) of soil by suitable equipment operated in at least 2 directions at right angles.

7. Contractor shall apply the amendments below to all planter areas. This is for bidding purposes only and the soil amendment recommendations of the soils report shall supersede these guidelines.

- Soil Conditioner: 4 cu.yd. per 1,000 sq. ft.
- Gypsum: 100 lbs. per 1,000 sq. ft.
- Soil Sulfur: 20 pounds per 1,000 sq. ft.
- Iron Sulfate: 20 pounds per 1,000 sq. ft.
- Triple superphosphate (0-45-0) 4 pounds per 1,000 sq. ft.
- Potassium sulfate (0-0-50) 8 pounds per 1,000 sq. ft.

8. The resulting soil shall be in a friable condition.

9. All planting areas shall be fertilized in a uniform manner at the application rate identified in the soil analysis recommendations.

10. Fertilization of turf areas shall be accomplished by uniformly spreading 50% of the specified quantity in one direction. The remaining 50% of the fertilizer quantity shall be spread perpendicular to the previous direction, immediately after the initial application. Each of the applications shall be spread uniformly in parallel, overlapping passes, to provide uniform results.

801-2.3 Finish Grading. DELETE in its entirety and SUBSTITUTE with the following:

1. Finish Grading shall provide a smooth, uniform surface plane with loose, uniformly fine texture. Roll, drag and rake to remove ridges, and fill depressions to meet finish grades. Rake out and remove all rocks and material 1/2-inch size and larger. Prior to approval, remove ridges greater than 1/2 inch and fill depressions greater than 1/2 inch within a 100 sq. ft. (10-foot x 10-foot) area.

- 2. Finish grades shall be as indicated on the Plans.
- 3. Finish grades shall be measured at the top surface of surface materials.
- 4. Molding and rounding of the grades shall be provided at all changes of slope.

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6. The staking shall be accomplished by the Contractor in such a manner as to ensure the proper and healthy growth and the safety of the plants, property, and the public.

7. Except at tree grates, install Redwood Cross Brace (1" x 4" x 36") between the two stakes on the windward side at each tree. Secure brace to stakes with (4)-6d galvanized nails. Refer to SLO County Public Works Tree Planting Detail M-5.

801-4.8.2 Seed. ADD the following:

1. Turf Seed application rate shall be 2 lbs per 1000 square feet.

To paragraph (2), subsection "a", "Method A", ADD the following:

The soil shall be moist for a depth of 6 inches (152.4 mm) before planting. If not, prior to planting the soil shall be watered to a depth of 8 inches (203.2 mm) and allowed to dry out to the point soil is moist and shall support labor and equipment without damage or undue compaction to soil and finish grade.

801-5.1 General. To paragraph (2), DELETE in its entirety and SUBSTITUTE with the following:

The contractor shall be responsible for furnishing the labor and materials for the utility connections. Utility connections shall be as shown on the Plan or designated by the utility company.

ADD the following:

1. The installation of the irrigation system shall be in accordance with the manufacturer's instructions unless specified otherwise.

801-5.2 Trench Excavation and Backfill. DELETE in its entirety and SUBSTITUTE with the following:

1. Trenches and other excavations shall be sized to accommodate the irrigation system components, conduit, and other required facilities. Additional space shall be provided to assure proper installation and access for inspection.
2. The bottom of trenches shall be true to grade and free of protruding stones, roots, or other matter which would prevent proper bedding of pipe or other facilities.
3. Trenches and excavations shall be backfilled so that the specified thickness of topsoil is restored to the upper part of the trench. Backfill shall be jetted in accordance with 306-12.4, "Jetted Trench Backfill". Other methods of compacting backfill may be approved by the District.

801-5.3.1 General. To paragraph (2), sentence (2), DELETE in its entirety and SUBSTITUTE with the following:

The pipe shall be surrounded with SE 50 plaster or mortar sand material per 200-1.5.5, "Sand Gradations".

To Paragraph (3), ADD the following:

Irrigation mainlines, valves, and supporting equipment shall be located in the planting areas. Unless otherwise specified no parallel pressure pipelines shall be installed within 1 foot (0.3 m) of each other.

801-5.3.3 Plastic Pipeline. ADD the following:

4. Tees shall be installed horizontally at the connection with the main line.

801-5.3.4 Brass Pipeline. ADD the following:

1. Brass pipe shall have a straight butt square edge with all burrs and fins removed.

801-5.4 Installation of Valves, Valve boxes, and Special Equipment. DELETE in its entirety and SUBSTITUTE with the following:

1. All irrigation equipment, except sprinkler heads and bubblers, shall be located a minimum of 10 feet (3 m) away from all tree locations. All irrigation equipment, except sprinkler heads and bubblers, shall be placed in shrub beds unless otherwise specified.

2. Valves and other equipment shall be installed in a normal upright position unless otherwise recommended by the manufacturer, and shall be readily accessible for operation, maintenance, and replacement.

3. Valves shall be the same size as the mainline pipe in which they are to serve unless otherwise shown on the Plans.

4. Quick coupler valves shall be 12 inch (304.8 mm) from curbs, pavement, and walks. In ground cover and shrubbery areas, quick coupler valves shall be set flush with finish grade of mulch or grass.

801-5.5.1 General. DELETE in its entirety and SUBSTITUTE with the following:

1. Mains and laterals, including risers, shall be flushed and pressure tested before installing swing joints and sprinkler heads, after which a water coverage test shall be performed.

801-5.7.2.1 General. DELETE in its entirety and SUBSTITUTE with the following:

1. Pressure testing for leakage shall be performed on newly installed supply lines, pressure mains, and laterals.
2. Pressure testing shall be done with all in-line isolation valves, manifold isolation valves, quick coupling valves and remote-control valves installed. All gate valves and globe valves shall be completely open. Remote-control valves shall be completely open with the outlet side capped off.
3. Irrigation lateral line testing (downstream of the control valve) shall be done with all solvent weld fittings in place. Connections for sprinkler head assemblies (swing joint assemblies) shall be capped.
4. Pipelines installed by trenching and backfilling and pipelines which are completely visible after installation shall be tested in accordance with 801-5.7.2.2, "Pipeline Pressure Test Method."
5. Backfilling of trenches shall not occur prior to pressure testing. Center loading of the pipes is allowed provided all joints are

completely exposed for observation.

801-5.7.2.2 Method A. DELETE in its entirety and SUBSTITUTE with the following:

801-5.7.2.2 Pipeline Pressure Test Method.

1. Pressure testing for leakage shall conform to the following procedure:

- a) Notify the Engineer at least 24 hours prior to performing a pressure test. Pressure tests shall be performed such that the test periods are within the working hours specified in the Special Provisions. The Engineer shall observe each pressure test.

- b) Before any portion of the pipeline on the supply side of a control valve is backfilled, water shall be turned on into that portion of the line and maintained at full pressure as described in the table below from the water source for a period of not less than 4 consecutive hours after air has been expelled from the line.

- c) Before any portion of the pipeline on the discharge side of control valve is backfilled, a similar test shall be performed, except the test shall be for a period of 2 hours as described in the table below. Leaks that develop in a tested portion of the system shall be repaired. After the leaks have been repaired, the pressure test shall be repeated. Additional repairs shall be made until no leaks occur.

- d) The constant test pressure shall be as follows:

Pressurized Mains 125 psi (861.8 kPa) 4 hours
Non-pressurized Laterals 100 psi (689.5 kPa) 2 hours

801-5.7.2.3 Method B. DELETE in its entirety.

ADD:

801-5.10 Drip System Components.

1. Drip Pressure Regulating Filter. The pressure regulating filter assembly shall be assembled with components in the details, and per manufacturer's instructions.
2. Drip Air Vacuum Relief Assembly. The drip air vacuum relief valve assembly shall be assembled with components in the details, and per manufacturer's instructions.
3. Drip Flush Valve Assembly. The drip flush valve assembly shall be assembled with components in the details, and per manufacturer's instructions.
4. Dripline, Fittings and Staples. The dripline shall be installed with components in the details, and per manufacturer's instructions.
5. Drip Operation Indicator. The drip operation indicator shall be installed with components in the details, and per manufacturer's instructions.

801-6 MAINTENANCE AND PLANT ESTABLISHMENT. DELETE in its entirety and SUBSTITUTE with the following:

1. Maintain all planted areas on the continuous basis as they are completed during the progress of the Work and during the Plant Establishment Period (PEP).
2. Mowing of lawn areas shall be as specified in 801-4.8, "Lawn Planting".
3. Any required pruning of plants shall be designated by the Engineer at the start of the PEP. Perform the pruning as part of the plant establishment Work.
4. After all planting and related Work has been completed in accordance with the Contract Documents, request a pre-maintenance inspection from the Engineer. All Punchlist items shall be completed prior to the start of the PEP.
5. After planting is completed, a field notification shall be issued to establish the effective beginning date of the PEP.
6. The PEP shall be as specified in the table below unless otherwise specified in the Contract Documents.

Permanently Irrigated Plants and Sod Installation	90 Calendar Days
Seed or Stolozed Lawn Areas	120 Calendar Days

7. Unless otherwise specified, the Resident Engineer and Project Biologist will determine that the PEP has been successfully completed when the following conditions have been met:

- a) Site is erosion free.
- b) 100-percent container plant survival.
- c) Zero-percent weed and invasive plant cover.
- d) Best Management Practices (BMPs) are in good condition as determined by the Resident Engineer.

8. The PEP shall be extended by the Resident Engineer if additional planting is necessary to achieve the required success criteria above or if other corrective Work becomes necessary.

9. Dead, damaged, unhealthy, and otherwise unsatisfactory plant materials shall be replaced within 2 weeks from the Engineer's notification.

10. Upon completion of the PEP, a final inspection shall be performed by the Engineer. If the PEP is satisfactorily completed ahead of other Work included in the Contract, the maintenance of planted areas shall be continued until all other Work has been completed.

801-6 MAINTENANCE AND PLANT ESTABLISHMENT (Cont.).

1. Maintenance shall be performed weekly or as directed by the Engineer and shall include irrigation inspection and repair, Site cleanup, pruning of groundcover, shrubs, and trees, mowing, weed control, fertilization every 4 weeks in accordance with 801-2.2.2, "Fertilizing and Conditioning Procedures", pest and fungi control, plant replacement, and mulch replenishment.



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